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# EIGHTEENTH ANNUAL REPORT

OF THE

# Regents of the University of the State of New-York,

ON THE CONDITION OF THE

# STATE CABINET OF NATURAL HISTORY,

AND THE

HISTORICAL AND ANTIQUARIAN COLLECTION ANNEXED THERETO.

Floras

Made to the Legislature, March 22, 1865.

ALBANY:
C. WENDELL, LEGISLATIVE PRINTER.
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# State of New York.

No. 90.

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March 22, 1865.

## EIGHTEENTH ANNUAL REPORT

OF THE REGENTS OF THE UNIVERSITY OF THE STATE OF NEW-YORK, ON THE CONDITION OF THE STATE CABINET OF NATURAL HISTORY, AND THE HISTORICAL AND ANTIQUARIAN COLLECTION ANNEXED THERETO.

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UNIVERSITY OF THE STATE OF NEW-YORK:

*OFFICE OF THE REGENTS, ALBANY, MARCH* 16, 1865.

To the Hon. THOMAS G. ALVORD,
*Lieutenant-Governor and President of the Senate.*

SIR:

I HAVE the honor to transmit the Eighteenth Annual Report of the Regents of the University, on the State Cabinet of Natural History and the Historical and Antiquarian Collection annexed thereto.

I remain, very respectfully,

Your obedient servant,

JOHN V. L. PRUYN,
*Chancellor of the University.*

439689

# REGENTS OF THE UNIVERSITY.

JOHN V. L. PRUYN, LL.D., *Chancellor.*
GULIAN C. VERPLANCK, LL.D., *Vice-Chancellor.*

EX OFFICIO :

REUBEN E. FENTON, *Governor.*
THOMAS G. ALVORD, *Lieutenant-Governor.*
CHAUNCEY M. DEPEW, *Secretary of State.*
VICTOR M. RICE, *Superintendent of Public Instruction.*

| | |
|---|---|
| ERASTUS CORNING. | ISAAC PARKS, D.D. |
| PROSPER M. WETMORE. | LORENZO BURROWS. |
| GIDEON HAWLEY, LL.D. | ROBERT S. HALE. |
| ROBERT CAMPBELL. | ELIAS W. LEAVENWORTH. |
| SAMUEL LUCKEY, D.D. | J. CARSON BREVOORT. |
| ROBERT G. RANKIN. | GEORGE R. PERKINS, LL.D. |
| ERASTUS C. BENEDICT. | ALEXANDER S. JOHNSON, LL.D. |
| GEORGE W. CLINTON, LL.D. | GEORGE W. CURTIS. |

WILLIAM H. GOODWIN, D.D.

SAMUEL B. WOOLWORTH, LL.D., *Secretary.*

## STANDING COMMITTEE OF THE REGENTS,

Specially charged with the Care of the State Cabinet.

1865.

The Governor (Mr. FENTON).

| | |
|---|---|
| Mr. CORNING, | Mr. CLINTON, |
| Mr. JOHNSON, | Mr. LEAVENWORTH. |

CURATOR :

EZEKIEL JEWETT, PH. D.

# REPORT.

TO THE LEGISLATURE OF THE STATE OF NEW-YORK.

The Regents of the University respectfully report :

The contents of the Cabinet are, in general, in excellent condition. The additions to it during the past year, by gift and by purchase, are set forth in the accompanying schedules. But the Regents discharge a pleasing duty in making special mention of the munificent donation of CHARLES F. WADSWORTH, Esq. of Buffalo, consisting of casts of fossil animals. A descriptive list, with an account of the supposed habits of the most remarkable of these animals, prepared by Professor WARD of the Rochester University, the maker of the casts, accompanies this report. It is also due to Mr. WADSWORTH to mention that he paid all the expenses of transportation, and of setting up, incasing and inclosing these casts; and to Professor WARD, to acknowledge the obligations of the Regents to him for the taste and elegance with which they are arranged.

The Circular issued last year by the Regents, inviting the aid of the naturalists of the State in supplying the deficiencies of the Cabinet, has produced some fruit, and promises to be productive of much more.

A very large proportion of the deficiencies of the State Herbarium has been supplied, and the Regents have received valuable material for a full catalogue of the Plants of the State. The names of the contributors to the Herbarium, and the general nature of their contributions, are added in a schedule. We are glad, however, to notice the fact that the venerable CHESTER DEWEY, that excellent gentleman and distinguished caricographer, has contributed a large number of the Carices of the State. This gift imparts to the Herbarium a new and peculiar value. We also mention, that as the foundation of a collection of our Mosses, Mr. CHARLES H.

Peck of Albany has presented the Herbarium with excellent specimens of 144 native species, all collected by himself. It is estimated that the whole number of mosses growing within the State does not exceed 250. A list of those presented by Mr. Peck forms one of the schedules of this Report.

The Rev. John A. Paine jun., at present of Utica, has prepared a most interesting Catalogue of the Plants of Oneida county and of several neighboring counties, with valuable notes as to the habits and stations of the rarer ones. We do a service to science in annexing the catalogue to our report.

In the Class Book of Botany by Professor Wood, the *Schizæa pusilla* of Pursh is attributed, on the authority of Timothy Wetmore, to the western part of the State. Mr. Wetmore, who died several years ago, was distinguished as an agricultural writer, and his death was a loss to literature and science. His herbarium was collected while pursuing his education in 1841 – 43, with no instructor in botany and no reliable books. The family of Mr. Wetmore kindly submitted his herbarium to the inspection of one of our number, and gave the three specimens therein, labelled by him *Schizæa pusilla*, to the Herbarium of the State : they are a Botrychium ; probably a mere form of *Botrychium virginicum*. They will be authentically labelled by Professor Daniel C. Eaton of Yale College, and then placed in the Herbarium.

A necessarily imperfect list of the plants found growing spontaneously in the State since the publication of the Catalogue of 1853, and not included therein, and lists of coast plants found growing in and about the Onondaga lake and on the shores of Lake Erie, and of some plants not found in the State, but so near it as to justify the expectation that they exist within it, are hereto appended in a paper entitled "Facts and Observations touching the Flora of the State."

The Herbarium of the State Cabinet, which, as an accompaniment of its Flora by Dr. Torrey, cannot be overvalued—ought to be most carefully preserved. The Regents have taken measures to have it put in a proper case, where it will be secure from dust, from insects, and from the injuries attendant upon careless handling.

The Herbarium of the late Lewis C. Beck, now the property of the State, is rich in plants of the West, of the South Pacific Ocean, and of Europe and the Indies. It is rich also in the labels of Muhlenbergh, and of many eminent botanists of this country and

of Europe. This herbarium will also be put in order, and secured in a proper case.

The Regents hope also to be able, during the present year, to commence a General Herbarium; one which will admit within it the plants of all climes and countries.

The Regents find much difficulty in initiating effective measures for the formation of a collection expressive of the economic geology of the State, in consequence of the want of an adequate appropriation for the purpose. For this they must rely on the wise liberality of the Legislature.

It is hoped that by the voluntary aid of Entomologists, the the Regents may be able during the current year to commence a collection of the Insects of the State, and especially of those which are injurious to the farmer, the horticulturist and the forest.

In the Natural History of New-York, Dr. DEKAY mentions that the Great White Pelican (*Pelecanus trachyrhincus*) was once abundant in portions of the State, but had, as he believed, wholly disappeared. It is therefore worthy of record that one of these birds was killed, last May, on the Seneca lake.

The Regents note with pleasure the fact that the State Cabinet has been visited the past year by unprecedented numbers of people, and has, they believe, yielded more pleasure and instruction than at any previous period. It reflects honor upon the State; and its importance to science, and its healthful influence upon the public seem to demand our most strenuous efforts to enlarge and perfect its collections.

Respectfully submitted,

By Order of the Regents.

JOHN V. L. PRUYN,
*Chancellor of the University.*

# APPENDIX.

# CONTENTS OF THE APPENDIX.


A. Additions to the State Cabinet during 1864 :
   1. By donation;
   2. By purchase.

B. Description of the Wadsworth Gallery of Casts of Fossil Animals : By Prof. HENRY A. WARD, Rochester.

C. Catalogue of Plants found in Oneida county and vicinity : By JOHN A. PAINE.

D. Catalogue of Mosses : By CHARLES H. PECK.

E. Facts and Observations touching the Flora of the State of New-York : By one of the Regents.

F. Results of Meteorological Observations :
   1. Meteorological Synopsis for 1864 : By J. B. TREMBLEY, Toledo, Ohio;
   2. Abstract of Observations for 1864 : By DAVID JOHNSON, Newbury, Vermont.
   3. Annual Abstracts for 1863 and 1864, Union Hall Academy, Jamaica, L.I. : By JOHN N. BRINCKERHOFF ;
   4. Results for 1864, and for 28 years now ended : By CHESTER DEWEY, D.D., Rochester.

G. Contributions to Palæontology : By JAMES HALL.
   1. Account of some new or little known species of Fossils from rocks of the age of the Niagara group, with Observations on the geographical distribution of the species of this epoch, etc.
   2. Observations on the Genus STREPTORHYNCHUS, continued from the Sixteenth Report.
   3. On the Genus STROPHODONTA.
   4. On the Genus CHONETES, with a list of the species known in the New-York formations.
   5. On the Genera PRODUCTUS, STROPHALOSIA, AULOSTEGES and PRODUCTELLA.
   6. On the Genus TROPIDOLEPTUS.
   7. On the Genus EICHWALDIA.
   8. Miscellaneous.
   9. Introduction to the Study of the GRAPTOLITIDÆ, with a list of the species known in the Palæozoic formations of Canada and the United States.
   10. Index to geological and palæontological subjects in the Reports on the State Cabinet.

# ( A. )

## ADDITIONS TO THE STATE CABINET DURING 1864.

### I. By donation.

#### I. *To the Zoological Department.*

From Hon. A. S. JOHNSON, Albany.

A remarkably fine pair of Deer's (*Cervus virginianus*) horns.

From the Buffalo Society of Natural Sciences.

*Menopoma alleghaniensis.* One specimen, alive.

#### II. *To the Botanical Department.*

From Rev. CHESTER DEWEY, D.D., Rochester.

An invaluable package of Carices.

From the Buffalo Society of Natural Sciences.

A package of Plants.

From Rev. JOHN A. PAINE Junior, Utica.

A package of Plants.

From Rev. L. HOLZER, Rochester.

A package of Plants, with many valuable suggestions. It probably contains one or two species not before found in this State; but the determination of the question cannot be made at present.

From T. F. ALLEN, M.D., New-York.

A large and very interesting package of Plants. Dr. Allen has done much for Botany in this State, as this package proves; and promises to be a still larger contributor to our State Flora.

From Miss RHODA WATERBURY, Schoharie.

Some fine specimens of Plants, beautifully prepared.

From ELLIOTT C. HOWE, M.D., Fort-Edward.

Some specimens of Plants.

From Prof. E. J. PICKETT, People's College.

Specimens of *Duvillea rupestris*, Sull't, a species of Marchantiaceæ, not before found in the United States.

From CHARLES H. PECK, Albany.

A large collection of Mosses, 144 species. See Appendix D.

#### III. *To the Geological and Mineralogical Departments.*

From the SMITHSONIAN INSTITUTION.

Specimens of Rocks and Building Stones :

GRANITE : Dix Island, Me.
Used for front of Treasury building, Washington.

MICA SCHIST (Potomac Blue rock) : Washington, D.C.
Foundation of Treasury building.

GRANITE : Baltimore county, Md.
Basement of Treasury building.

GRANITE, MICA SCHIST (Blue rock) : Dix island, Me.
Foundation of Treasury building, Smithsonian Institution & Patent Office.

WHITE CRYSTALLINE LIMESTONE (White Marble) : Baltimore co. [Md
Post-Office building.

WHITE LAMELLAR LIMESTONE : Texas, Md.
Washington Monument and Post-Office.

MICA SCHIST (Blue rock) : District of Columbia.
Foundations of the Capitol and Post-Office.

RED SANDSTONE (Seneca Brownstone) : Seneca, Md.
Smithsonian Institution and Georgetown Aqueduct.

SANDSTONE (Potomac Sandstone) : Aquia creek, Va.
Old Treasury building, Old Capitol and Executive Mansion.

COMPACT LIMESTONE (Calico Marble) : Montpelier, Vt.
Decorations of House of Representatives and Treasury.

SACCHAROIDAL LIMESTONE (White Marble) : North-Lee, Mass.
Capitol Extension.

SACCHAROIDAL LIMESTONE (White Marble) : Plains of Marathon, [Greece.

CANAANITE : Canaan, Conn.

MAGNETITE : Iron mountain, Miss.

FRANKLINITE and ZINCITE : Franklin, N.J.

CHALYBITE : Litchfield, Conn.

MAGNETITE : Essex county, N.Y.

GRAPHIC GRANITE (Pegmatite) : New-Bedford, Mass.

NATIVE COPPER in Vein-stone or Trap : Lake Superior.

GRAY SULPHURET of COPPER : Lake Superior.

From C. S. WOODWARD, Mount Hope, Orange county.

SULPHURET of LEAD, from Erie Mine.

do. from Mount Hope Empire Mining Company.

SULPHURET of COPPER, from Otisville Mining Company.

From CHARLES F. WADSWORTH, Buffalo.

Gallery of Casts of FOSSIL ANIMALS. See Prof. WARD'S Paper (B).

IV. *To the Historical and Antiquarian Department.*

From E. COCHRAN, Coxsackie.

Ten ARROWHEADS of CHERT, found at Coxsackie.

## II. ADDITIONS BY PURCHASE.

*To the Zoological Department.*

*Rangifer tarandus*, the Reindeer : Skulls with the horns, male & female.
*Ovibos moschatus*, the Musk-ox : A skull.

EGGS of the following Domestic and Foreign BIRDS :

## I. EGGS OF DOMESTIC BIRDS.

| | |
|---|---|
| Cathartes aura, Illig. | *Turkey Buzzard.* |
| Tinnunculus sparverius, Vieill. | *Sparrow Hawk.* |
| Astur atricapillus, Bonap. | *Goshawk.* |
| Accipiter cooperi, Bonap. | *Cooper's Hawk.* |
| Accipiter fuscus, Bonap. | *Sharpshinned Hawk.* |
| Buteo lineatus, Jardine. | *Redshouldered Hawk.* |
| Buteo pennsylvanicus, Bonap. | *Broadwinged Hawk.* |
| Circus hudsonius, Vieill. | *Marsh Hawk.* |
| Pandion carolinensis, Bonap. | *Fish Hawk.* |
| Polyborus tharus, Cassin. | *Caracara Eagle.* |
| Craxirex unicinctus, Cassin. | *Harris's Buzzard.* |
| Strix pratincola, Bonap. | *Barn Owl.* |
| Scops asio, Bonap. | *Mottled Owl.* |
| Geococcyx californianus, Baird. | *Paisano : Chaparral Cock.* |
| Coccygus americanus, Bonap. | *Yellowbilled Cuckoo.* |
| Coccygus erythrophthalmus, Bp. | *Blackbilled Cuckoo.* |
| Picus villosus, Linn. | *Hairy Woodpecker.* |
| Melanerpes formicivorus, Bon. | *California Woodpecker.* |
| Colaptes auratus, Swainson. | *Yellowshafted Flicker.* |
| Trochilus colubris, Linn. | *Hummingbird.* |
| Antrostomus vociferus, Bonap. | *Whippoorwill.* |
| Chordeiles popetue, Baird. | *Nighthawk.* |
| Chordeiles henryi, Cassin. | *Western Nighthawk.* |
| Milvulus tyrannus, Bonap. | *Forktailed Flycatcher.* |
| Milvulus forficatus, Sw. | *Scissortail.* |
| Tyrannus carolinensis, Baird. | *Kingbird, Beebird.* |
| Tyrannus verticalis, Say. | *Arkansas Flycatcher.* |
| Myiarchus crinitus, Cab. | *Greatcrested Flycatcher.* |
| Sayornis fuscus, Baird. | *Pewee.* |
| Centopus vireus, Cab. | *Wood Pewee.* |
| Turdus migratorius, Linn. | *Robin.* |
| Sialia sialis, Baird. | *Bluebird.* |
| Sialia arctica, Swains. | *Rocky-mountain Bluebird.* |
| Anthus ludovicianus, Licht. | *Titlark.* |
| Geothlypis trichas, Cab. | *Maryland Yellowthroat.* |
| Icteria viridis, Bonap. | *Yellowbreasted Chat.* |
| Dendroica striata, Baird. | *Blackpoll Warbler.* |
| Dendroica æstiva, Baird. | *Yellow Warbler.* |
| Setophaga ruticilla, Sw. | *Redstart.* |
| Hirundo horreorum, Barton. | *Barn Swallow.* |
| Hirundo lunifrons, Say. | *Cliff Swallow.* |
| Cotyle riparia, Boié. | *Bank Swallow.* |
| Progne purpurea, Boié. | *Purple Martin.* |
| Collyrio borealis?, Baird. | *Great Northern Shrike.* |
| Collyrio ludovicianus, Baird. | *Loggerhead Shrike.* |
| Vireo gilvus, Bonap. | *Warbling Flycatcher.* |
| Vireo noveboracensis, Bonap. | *White-eyed Vireo.* |
| Mimus carolinensis, Gray. | *Catbird.* |
| Harporhynchus longicauda, Bd. | *Longtailed Thrush.* |
| Thryothorus berlandieri?, Couch. | *Berlandier's Wren.* |
| Thryothorus bewickii?, Bonap. | *Bewick's Wren.* |
| Cistothorus palustris, Cab. | *Longbilled Marsh Wren.* |
| Troglodytes ædon, Vieill. | *House Wren.* |
| Troglodytes parkmanni, Aud. | *Parkman's Wren.* |

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|---|---|
| Lophophanes atricristatus, Cass. | *Blackcrested Tit.* |
| Parus atricapillus, Linn. | *Blackcap Titmouse.* |
| Chrysomitris tristis, Bonap. | *Yellowbird.* |
| Poœcetes gramineus, Baird. | *Grass Finch.* |
| Ammodromus caudacutus, Sw. | *Sharptailed Finch.* |
| Ammodromus maritimus, Sw. | *Seaside Finch.* |
| Chondestes grammaca, Bonap. | *Lark Finch.* |
| Zonotrichia gambelii, Gambel. | *Gambel's Finch.* |
| Spizella monticola, Baird. | *Tree Sparrow.* |
| Spizella socialis, Bonap. | *Chipping Sparrow.* |
| Melospiza melodia, Baird. | *Song Sparrow.* |
| Euspiza americana, Bonap. | *Blackthroated Bunting.* |
| Cyanospiza cyanea, Baird. | *Indigo-bird.* |
| Pipilo erythrophthalmus, Vieill. | *Ground Robin, Towhee.* |
| Dolichonyx oryzivorus, Sw. | *Boblink, Reedbird.* |
| Molothrus pecoris, Sw. | *Cowbird.* |
| Agelaius phœniceus, Vieill. | *Redwinged Blackbird.* |
| Xanthocephalus icterocephalus, | *Yellowheaded Blackbird.* |
| Trupialis militaris, Bonap. | *Redbreasted Lark.* |
| Sturnella neglecta, Aud. | *Western Lark.* |
| Icterus spurius, Bonap. | *Orchard Oriole.* |
| Icterus baltimore, Daudin. | *Baltimore Oriole.* |
| Icterus bullockii, Bonap. | *Bullock's Oriole.* |
| Quiscalus macroura, Sw. | *Longtailed Grakle.* |
| Quiscalus major, Vieill. | *Boattailed Grakle.* |
| Quiscalus versicolor, Vieill. | *Crow Blackbird.* |
| Corvus carnivorus, Bartram. | *American Raven.* |
| Corvus americanus, Aud. | *Common Crow.* |
| Corvus ossifragus, Wilson. | *Fish Crow.* |
| Pica hudsonica, Bonap. | *Magpie.* |
| Cyanura cristata, Sw. | *Blue Jay.* |
| Ectopistes migratoria, Sw. | *Wild Pigeon.* |
| Zenaidura carolinensis, Bonap. | *Common Dove.* |
| Chamæpelia passerina, Sw. | *Ground Dove.* |
| Meleagris gallopavo, Linn. | *Wild Turkey.* |
| Tetrao canadensis, Linn. | *Spruce Partridge.* |
| Centrocercus urophasianus, Sw. | *Sagecock.* |
| Pediorcetes phasianellus, Bd. | *Sharptailed Grouse.* |
| Cupidonia cupido, Baird. | *Prairie-hen.* |
| Bonasa umbellus, Steph. | *Ruffed Grouse.* |
| Ortyx virginianus, Bonap. | *Partridge, Quail.* |
| Ortyx texanus, Lawr. | *Texas Quail.* |
| Oreortyx pictus?, Baird. | *Mountain Quail.* |
| Lophortyx californicus, Bonap. | *California Quail.* |
| Grus canadensis, Temm. | *Sandhill Crane.* |
| Demiegretta ludoviciana, Bd. | *Louisiana Heron.* |
| Garzetta candidissima, Bonap. | *Snowy Heron.* |
| Ardea herodias, Linn. | *Great Blue Heron.* |
| Audubonia occidentalis, Bonap. | *Great White Heron.* |
| Florida cærulea, Baird. | *Blue Heron.* |
| Ardetta exilis, Gray. | *Least Bittern.* |
| Botaurus lentiginosus, Steph. | *Bittern, Stakedriver.* |
| Butorides virescens, Bonap. | *Green Heron* |
| Nyctiardea gardeni, Baird. | *Night Heron.* |
| Ibis alba, Vieillot. | *White Ibis.* |
| Ægialites vociferus, Cassin. | *Killdeer.* |

| | |
|---|---|
| Ægialites wilsonius, Cassin. | *Wilson's Plover.* |
| Ægialites semipalmatus, Cab. | *Semipalmated Plover.* |
| Ægialites melodus, Cab. | *Piping Plover.* |
| Hæmatopus palliatus, Temm. | *Oystercatcher.* |
| Hæmatopus niger?, Pallas. | *Bachman's Oystercatcher.* |
| Himantopus nigricollis, Vieill. | *Blacknecked Stilt.* |
| Philomela minor, Gray. | *American Woodcock.* |
| Symphemia semipalmata, Hartl. | *Willet.* |
| Numenius longirostris, Wils. | *Longbilled Curlew.* |
| Rallus elegans, Aud. | *Marsh-hen.* |
| Rallus crepitans, Gm. | *Clapper Rail.* |
| Rallus virginianus, Linn. | *Virginia Rail.* |
| Fulica americana, Gmelin. | *Coot.* |
| Bernicla canadensis, Boié. | *Canada Goose.* |
| Dendrocygna autumnalis, Eyton. | *Longlegged Duck.* |
| Anas boschas, Linn. | *Mallard.* |
| Anas obscura, Gm. | *Black Duck.* |
| Dafila acuta, Jenyns. | *Sprigtail, Pintail.* |
| Nettion carolinensis, Baird. | *Greenwinged Teal.* |
| Querquedula discors, Steph. | *Bluewinged Teal.* |
| Histrionicus torquatus, Bonap. | *Harlequin Duck.* |
| Harelda glacialis, Leach. | *South Southerly.* |
| Mergus serrator, Linn. | *Redbreasted Merganser.* |
| Pelecanus fuscus, Linn. | *Brown Pelican.* |
| Sula bassana, Briss. | *Gannet.* |
| Tachypetes aquila, Vieillot. | *Man-of-war-bird.* |
| Graculus carbo, Gray. | *Common Cormorant.* |
| Graculus floridanus, Bonap. | *Florida Cormorant.* |
| Graculus pencillatus, Bonap. | *Brandt's Cormorant.* |
| Graculus violaceus, Gray. | *Violet-green Cormorant.* |
| Plotus anhinga, Linn. | *Snakebird, Water Turkey.* |
| Thalassidroma leachii, Temm. | *Leach's Petrel.* |
| Puffinus obscurus, Lath. | *Dusky Shearwater.* |
| Larus glaucus, Brünn. | *Burgomaster.* |
| Larus argentatus, Brünn. | *Herring Gull.* |
| Cricocephalus atricilla, Linn. | *Laughing Gull.* |
| Sterna aranea, Wils. | *Marsh Tern.* |
| Sterna regia, Gambel. | *Royal Tern.* |
| Sterna fuliginosa, Gmelin. | *Sooty Tern.* |
| Sterna wilsoni, Bonap. | *Wilson's Tern.* |
| Sterna macroura, Naum. | *Arctic Tern.* |
| Sterna forsteri, Nutt. | *Forster's Tern.* |
| Sterna frenata, Gambel. | *Least Tern.* |
| Anous stolidus, Leach. | *Noddy Tern.* |
| Rhynchops nigra, Linn. | *Black Skimmer.* |
| Colymbus torquatus, Brünn. | *Loon.* |
| Colymbus septentrionalis, Linn. | *Redthroated Diver.* |
| Podilymbus podiceps, Lawr. | *Carolina Grebe.* |
| Alca torda, Linn. | *Razorbilled Auk.* |
| Mormon cirrhata, Bonap. | *Tufted Puffin.* |
| Mormon corniculata, Naum. | *Horned Puffin.* |
| Mormon arctica, Illiger. | *Arctic Puffin.* |
| Uria grylle, Latham. | *Black Guillemot.* |
| Uria columba, Cassin. | *Western Guillemot.* |
| Uria lomvia, Brünnich. | *Foolish Guillemot.* |
| Uria ringvia, Brünnich. | *Murre.* |

## II. EGGS OF FOREIGN BIRDS.

| | | |
|---|---|---|
| Struthio camelus, | *African Ostrich.* | |
| Casuarius, | *Cassowary.* | New-Holland. |
| Rhea americana, | | South-America. |
| Tinnaculus alaudarius, | *Kestril.* | England. |
| Accipiter nissus, | *Sparrowhawk.* | Germany. |
| Corvus corone, | *Carrion Crow.* | Europe. |
| Corvus monedula, | *Jackdaw.* | do |
| Corvus corax, | *Raven.* | do |
| Corvus fugilegus, | *Rook.* | France. |
| Corvus pica, | —— | do |
| Fringilla domestica, | *House Sparrow.* | England. |
| Lanius excubitor, | *Cinereous Shrike.* | do |
| Sternus vulgaris, | *Starling.* | do |
| Perdix australis, | *Australian Partridge.* | |
| | *Silky-fowl.* | Japan. |
| Perdix cinerea, | *Common Partridge.* | England. |
| Phasianus colchicus, | *Pheasant.* | do |
| Perdix pectoralis, | | Australia. |
| Gallinula chloropus, | *Moor-hen.* | England. |
| Coturnix communis, | *Quail.* | do |
| Vanellus cristatus, | *Common Lapwing.* | do |
| Turdus palustris, | *Fieldfare.* | do |
| Turdus musicus, | *English Thrush.* | do |
| Turdus merula, | *Blackbird.* | do |
| | *Fauvette grisette.* | France. |
| Garrulus glandinosa, | *Jay.* | England. |
| Alauda sylvicola, | *Woodlark.* | do |
| Sylvia hortensis, | *Whitethroat.* | do |
| Rossignol demmeallis, | | France. |
| Anthus aquaticus, | | do |
| Lanius colubris, | | do |
| | *Gray Hedge Sparrow.* | England. |
| | *Mirange petite.* | France. |
| Fringilla cannabina, | *Linnet.* | England. |
| Sylvia rubicula, | *Redthroat.* | France. |
| Lanius rutillus, | | do |
| Alauda montana, | | do |
| Parus cæruleus, | *Tomtit.* | England. |
| | *Petite faulouse.* | France. |
| Cauda rubina, | *Redtail.* | England. |
| Coccothraustes chloris, | *Green Linnet.* | do |
| Fringilla cœlebs, | *Goldfinch.* | do |
| Fringilla carduelis, | *Thistlefinch.* | do |
| Parus domesticus, | *Common Sparrow.* | do |
| Lanius minor, | | France. |
| Emberiza citrinella, | *Yellow Bunting.* | England. |
| | *Poullet chantre.* | France. |
| Sylvia hippopais, | | do |
| Columba turtus, | *Turtle Dove.* | England. |
| Hirundo rusticus, | *Swallow.* | France. |
| Pyrrhula vulgaris, | | do |
| Fringilla coronia, | *Ring Sparrow.* | England. |
| Troglodytes vulgaris, | *Wren.* | France. |
| Motacilla alba, | *Pied Wagtail.* | England. |
| Erythraca rubicula, | | France. |
| Sylvia cinerea, | | do |
| Parus major, | | do |
| Corica artricapilla, | *Blackcap.* | do |

( B. )

# WADSWORTH GALLERY

OF

# CASTS OF FOSSIL ANIMALS.

It is a subject of congratulation, and an evidence of the advance of liberal sentiments in regard to the importance of Natural Science in our country, that the most valuable addition to the State Cabinet has been made during the past year. We refer to the unique and magnificent Museum of Casts in the east end of the large hall. It was the accession most needed. Preëminently rich in many departments of fossil zoology, the State Collection was, for an obvious reason, deficient in representing those lords of creation, the Vertebrates. But the splendid contribution just made, completes the picture of animal life; and, in doing that, it raises the Collection to the first rank among American Cabinets. For this noble and timely gift, the State is indebted to the munificence of Charles F. Wadsworth, Esq. of Buffalo; and the act receives double interest from the fact that the Museum, of the highest intrinsic value in itself, was donated by the son of a former Regent of the University, whom, for his patriotic devotion to her in her hour of need, the nation delighted to honor. The specimens number 117; and they represent many of the rarest and most extraordinary fossil forms known to geologists. As the majority of the originals are confined to the royal and imperial museums of Europe, and are therefore inaccessible to the American public, these copies will be welcomed as a most important addition. Many of them are known in our colleges only through vague descriptions and incorrect engravings. Indeed the Collection has no parallel on either side of the Atlantic; for the objects have never before been grouped together in any one museum. Regarded as a part of the System of Education in our commonwealth, the State Cabinet is rendered far more attractive and instructive to both students and visitors, by opening to our fellow-citizens the treasures of foreign science. The benefaction will be an enduring monument to the donor; while it will be gratefully remembered wherever princely liberality is appreciated, and will be a source of national pride to every one who desires to see in the State Capital a satisfactory exposition of Natural History.

The specimens were prepared by Professor Henry A. Ward of Rochester, N.Y., and with such fidelity and skill that it is not easy to distinguish them from the originals. The colossal size of some, and the beauty of execution of all, throw a flood of light on the inhabitants of a former world. Many of them seem instinct with life, so natural is their representation; and the observer is carried by imagination down the flight of ages to that Pre-Adamite period when monsters, long ago extinct, ruled the Earth.

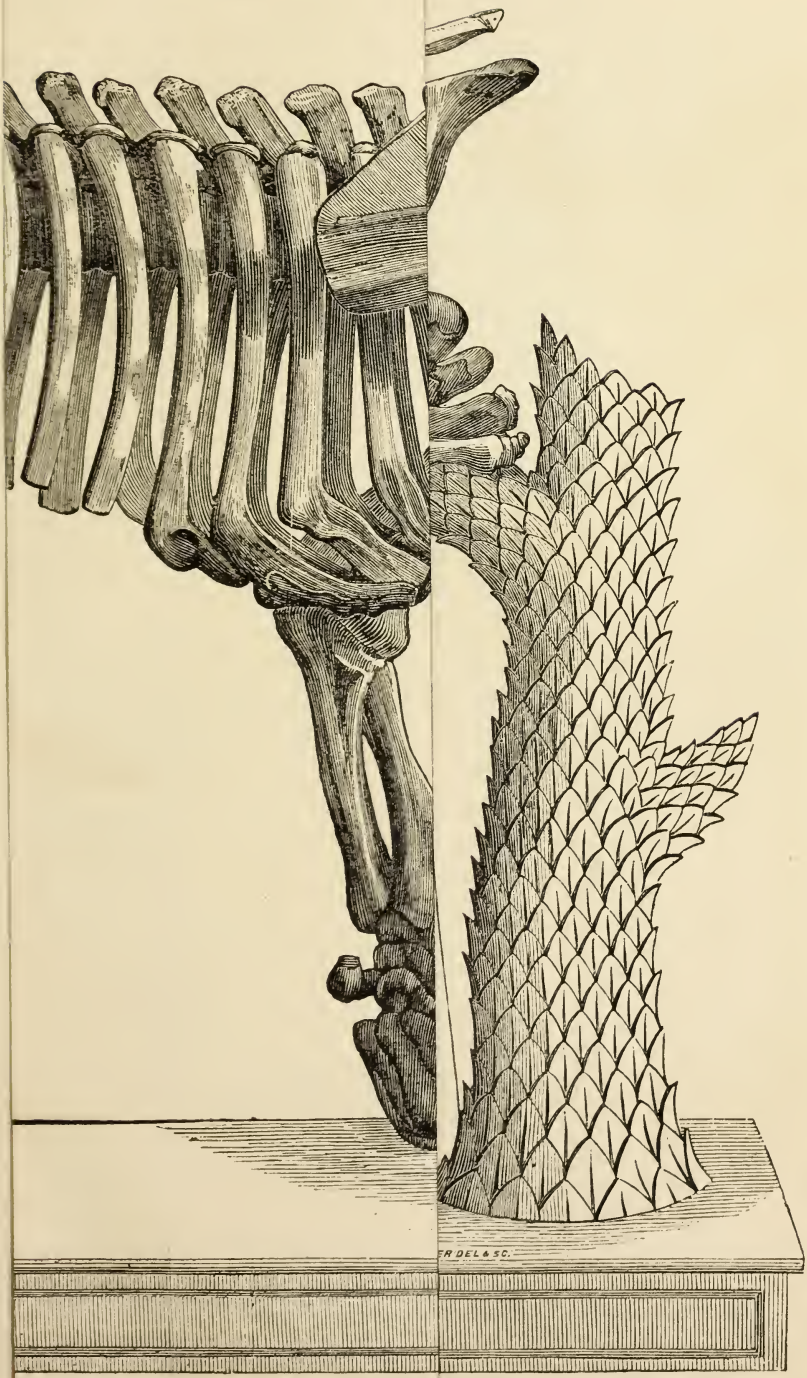
## Megatherium cuvieri.

This gigantic fossil was first made known to the scientific world in 1789. It was discovered on the banks of the River Luxan near the city of Buenos Ayres, and was subsequently transmitted to Madrid, where, for half a century, it excited the most lively speculations among all European naturalists who were so fortunate as to see it. The original bones, of which the specimen in the Wadsworth Collection is a copy, were found in the same Pampean deposit between the years 1831 and 1838, and belong partly to the Hunterian Museum of the Royal College of Surgeons, and partly to the British Museum. To give to the singular quadruped its proper position in the Animal Kingdom, was for many years a problem in comparative anatomy which the *savans* of Europe could not solve. Led astray by the huge carapace of the Glyptodon, found near it, the majority called it a mammoth Armadillo. Cuvier, who gave it its generic title, thought it combined the characters of the Sloth, Anteater and Armadillo. The merit of throwing a flood of light on the nature and structure of this most remarkable of all fossil mammals, was reserved for the celebrated English Geologist, Professor Owen. He conclusively proves that the Megatherium was a "Ground Sloth," feeding on the foliage of trees which it uprooted by its strength.

The extreme length of the mounted skeleton is 17 feet and 9 inches: its height, from the pedestal to the top of the spinous process of the first dorsal vertebra, is 7 feet. No other fossil so exceeds its modern representative, as the lordly Megatherium surpasses the pigmy remnant of the Tardigrade race; for the largest living Sloth does not exceed 2 feet in length. One is tempted to join the Spanish naturalist who objected to the place assigned to the Megatherium, because "all the other Edentates could dance in his carcase." But that there is the closest affinity between it and the diminutive arboreal Sloth, is now undeniable. The number of the teeth, their deep insertion, equable breadth and thickness, deeply excavated base, inner structure and unlimited growth, and the absence of canines, are characters common to both. Both have the peculiar zygomatic arch to the skull: the alveoli of the jaws correspond in number, position and relative depth. There is the same anomalous shortness of face; a similar development of air cells surrounding the cerebral cavity; the like scapula, clavicle, ossified sternal ribs; the identically expanded ilia; the flattened femur; and an equal number of sacral vertebræ. The part in which the Megatherium least resembles the Sloth, is the tail; and, as a general rule, in those modifications of structure in which it differs from its living analogue, it approximates to the Anteater; e. g. in the number and structure of the true vertebræ.

The astragalus is the most characteristic single bone in the skeleton; its upper surface being so hollowed on one side, with a wide crescentic groove, as to throw the whole weight of the leg upon the inner side of the foot. The anchylosis of the tibia and fibula is known among existing quadrupeds only in armor-bearing Edentates.

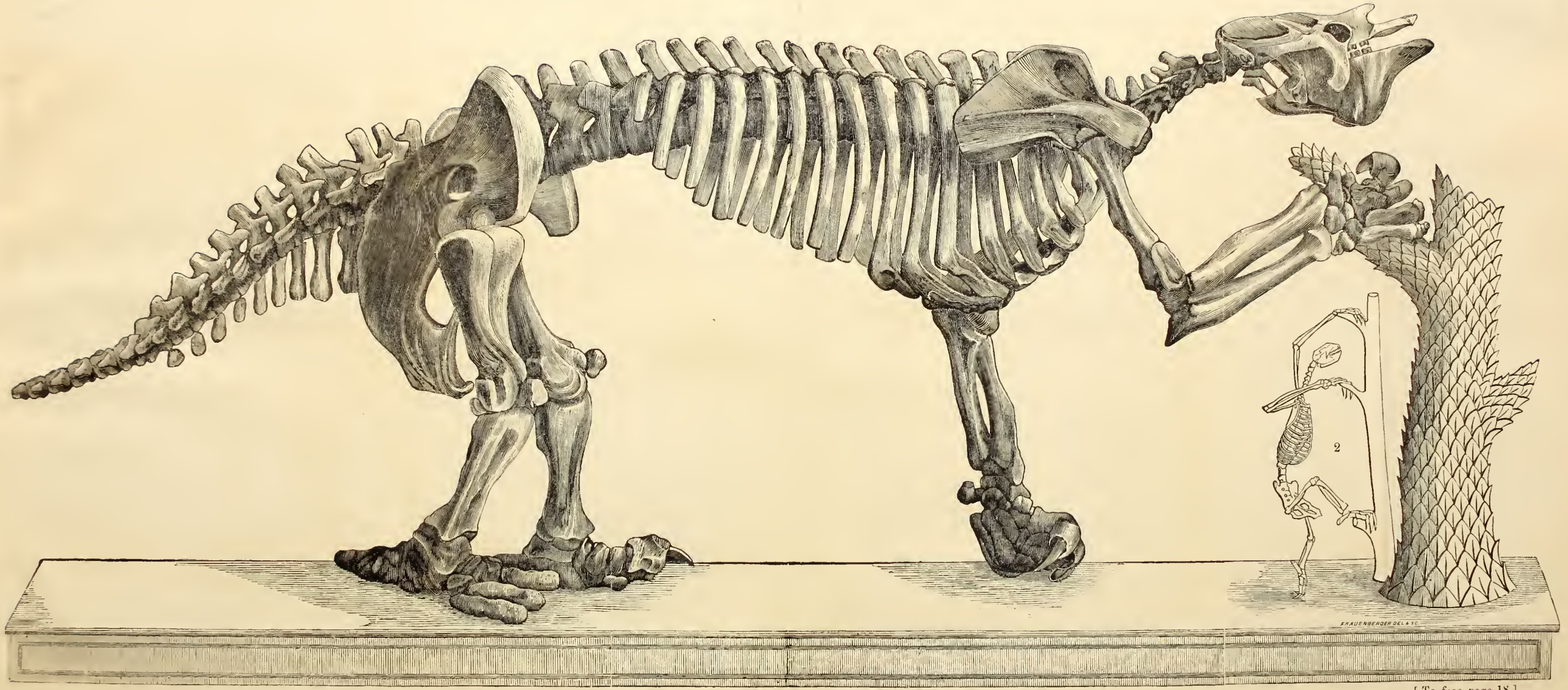
2.— Bradypus tridactylus (



14; about one inch to the foot.

[ To face page 18.]

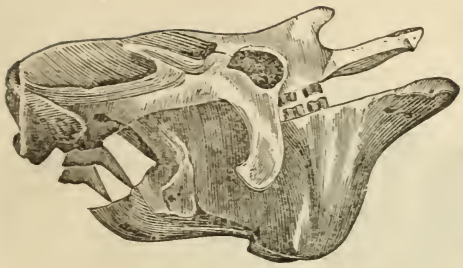
1.— Skeleton of Megatherium cuvieri. 2.— Bradypus tridactylus (Sloth).



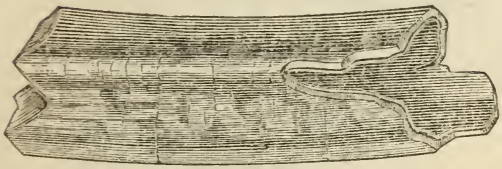

Scale 1 – 14; about one inch to the foot.

[To face page 18.]

2.



3.



The head[2] of the Megatherium is remarkable for its relatively small size, for the extraordinary depth of the lower jaw, and for the great size of the zygomatic processes. The length of the skull is 31 inches : 3 inches less than that of the Asiatic Elephant. The formation of the muzzle indicates the possession of a short proboscis. The dental formula is $\frac{5}{4}\frac{-}{-}\frac{5}{4} = 18$. The teeth are prismatic and slightly curved, and measure from eight to ten inches in length, and between two and three inches in breadth.[3] In composition, a central axis of vascular dentine is inclosed by a wall of unvascular dentine, and this by one of cement.

The spinal column consists of seven cervical, sixteen dorsal, three lumbar, five sacral and eighteen caudal vertebræ, and measures fifteen feet in length, or three feet more than the Elephant. The circumference of the skeleton, at the eighth rib, is eleven feet.

In no respect does the Megatherium differ more strikingly from existing quadrupeds of corresponding bulk, than in the vast proportions of its anterior extremities. Its clavicle, fifteen inches long, is the longest known. The foreleg bespeaks enormous strength; with the foot, it is seven feet and four inches in length.[4]

The posterior extremities are shorter than the anterior. The pelvis is the largest bone in any land animal, living or extinct : it is upwards of five feet broad. The rugged ilium and spinal crest show that it was the centre of muscular bundles of enormous power, which diverged to act upon the trunk, the tail and the hindlegs. These muscles, judging from the size of the spinal cord, which in this region is four inches in diameter, must have been characterized by the extreme energy of their vital contractibility. The acetabulum is excavated in a very exceptional manner, its concavity facing directly downward. This gave increased strength for sustaining vertical pressure at the expense of rapid motion.

The hindlegs appear more like columns for support than organs for locomotion, and, with the hindfeet, are models of massive organic masonry.[5] The heel-bone alone has the extraordinary length of seventeen inches, and a circumference of twenty-eight inches. The monster walked, like the Ant-eater, on the outside edge of its foot, on a marginal hoof-like callosity. The middle toe of the hindfoot, and likewise the second, third and fourth digits of the forefoot, were armed with powerful claws. The magnitude of the tail fills the observer with wonder : when clothed with flesh, it must have been more than six feet around at the greater end. With the hindlegs, it formed a tripod upon which the animal rested when obtaining its food.

It would be interesting to know something of the daily life of an animal whose colossal size was united to such strange anatomy. As the brain of the Megatherium was less by nearly one-half than that of the Elephant, we infer that he was a creature of fewer instincts. Nevertheless his cotemporary quadrupeds must have acknowledged him as the head of the Animal King-



4. Fore extremity of the MEGATHERIUM.

5.



Hind extremities of the MEGATHERIUM.

dom. To the tongue of a Giraffe and the proboscis of a Tapir, there was added the power of rotating the bones of the forearm. These prehensile organs were suited to a leaf-feeder. That the animal was not carnivorous, is settled by the structure of its molar teeth : it lacks incisors ; therefore it was not a Ruminant. But if the great animal fed on foliage, how did it obtain it? The Elephant gathers its food with a long proboscis. The Giraffe, standing on stilt-like forelegs, and reaching out its attenuated neck, plucks the high branches with long flexible lips and muscular tongue. The Megatherium could imitate neither. Did it climb like the Sloth? Such was the conjecture of the Danish Naturalist, Dr. LUND ; but the clumsy make and the immense bulk and weight of the creature forbid it. The structure of the forefeet, moreover, militates against the theory ; for the outer digit is hoof-like, as if made for terrestrial progression. The hindlegs, too, are much shorter than the forelegs ; and the tail is too short and thick for prehensile purposes.

The fossorial hypothesis, too, has no better foundation than the scansorial. In burrowing animals, as the Mole, the pelvis is remarkably slender, and the claws form a continuous plane with the palm of the foot ; while in the Megatherium the pelvis is remarkably large, and not one of the claws can be brought into a line with the metacarpus. The fore-arms were plainly formed for grasping, not climbing nor digging : they were instruments of tremendous strength, evidence of which is furnished by the deep grooves and sharp ridges on the radius and ulna, the starting points of stout tendons and muscles. The moment we estimate this force, the colossal proportions of the hind-extremities lose their anomaly and harmonize with the front. The application of the fore-arms to the work of tearing down a tree would demand a corresponding fulcrum, such as we find in the heavy pelvis, the ponderous tail and the massive hindlegs.

The Megatherium needed not agility for securing prey, for it was not carnivorous ; nor for flight, for its size alone must have been a protection against any living foe. Had we beheld it living on its native plains, its slow movement would have excited our wonder as much as its bulk. It was doubtless a solitary animal. The gathering together in herds was not required for self-defence : indeed, the necessities of the creature to obtain an enormous daily supply of food would not have allowed it, unless the vegetation of that day were far more dense than is the modern vegetation of the same region. When stripping the trees it had prostrated, its position was probably a reclining one ; and Professor AGASSIZ has ventured the opinion that this crouching attitude was constant to the animal, and that it crept along with the full length of its fore-arm resting upon the ground.

The Pampas, where the remains of the great fossil have been chiefly found, are vast plains, stretching from the mountains of Brazil to Tierra del Fuego. Palms grow at one end, while snow covers the other almost the entire year. The soil is chiefly a dull-reddish slightly-indurated argillaceous earth, with here and there calcareous concretions : underneath are beds of stratified gravel and conglomerate. These deposits constitute the Pampean formation, which varies in depth from twenty to one hundred feet. They were slowly formed at a time when the Atlantic reached far westward to the foot of the central mountain chain, down whose flanks the rivers brought the detritus and spread it beneath the waters in level layers at some distance from the shore. Carcases of animals floated down upon the same streams, and, reaching the quiet waters, sank down in their muddy bed. The whole area has since been elevated ; the estuary mud has been converted into wide and level plains, and the shores and submarine banks of a former sea now form low headlands along the present coast. It was in this recent formation

— referable to the Pleistocene period, because most of its shells are still living in the ocean — that the Megatherium was entombed. Its bones are almost exclusively found in the cliffs and steep banks of rivers; thus far, the Rivers Salado and Luxan. The race was not exterminated by some great cataclysm; for the small bones, like the kneecap, of a cotemporary mammal were discovered by DARWIN in the same deposit, all lying in their proper relative position. Like the Aborigines of our own continent, like the Dodo of Mauritius, the Edentate giants perished one after another, in the lapse of infinite ages, by those changes of circumstances in the organic and inorganic world which are always in progress.

The Megatherium was buried in a hecatomb of extinct monsters. By its side we find the bones of the kindred Mylodon, Megalonyx and Scelidotherium, all of them Sloths; the Glyptodon and Schistopleurum, the Toxodon and Mastodon, the Machairodus and Macrauchenia. The Megatherium and its associates have been discovered in the Pleistocene deposits of the United States; but South-America was then, as it is now, the metropolis of the Edentates.

The great skeleton is surrounded by a beautiful iron railing, the columns of which support bronze figures of ten representative forms from the natural order (EDENTATA) to which the fossil belongs. They are the Mylodon (*M. robustus*), Megalonyx (*M. jeffersoni*), Glyptodon (*G. clavicaudatus*), Sloth (*Bradypus didactylus*), Great Anteater (*Myrmecophaga jubata*), Little Anteater (*M. didactyla*), Armadillo (*Dasypus peba*), Aard Vark (*Orycteropus capensis*), Pichiciego (*Clamyphorus truncatus*), and Longtailed Manis (*M. longicaudatus*). The animals of this series, by their similarity in certain parts, illustrate well the law of adherence to type or pattern, which Nature followed in their construction; while their differences illustrate the other great law by which organic structures are specially adapted to special modes of life.

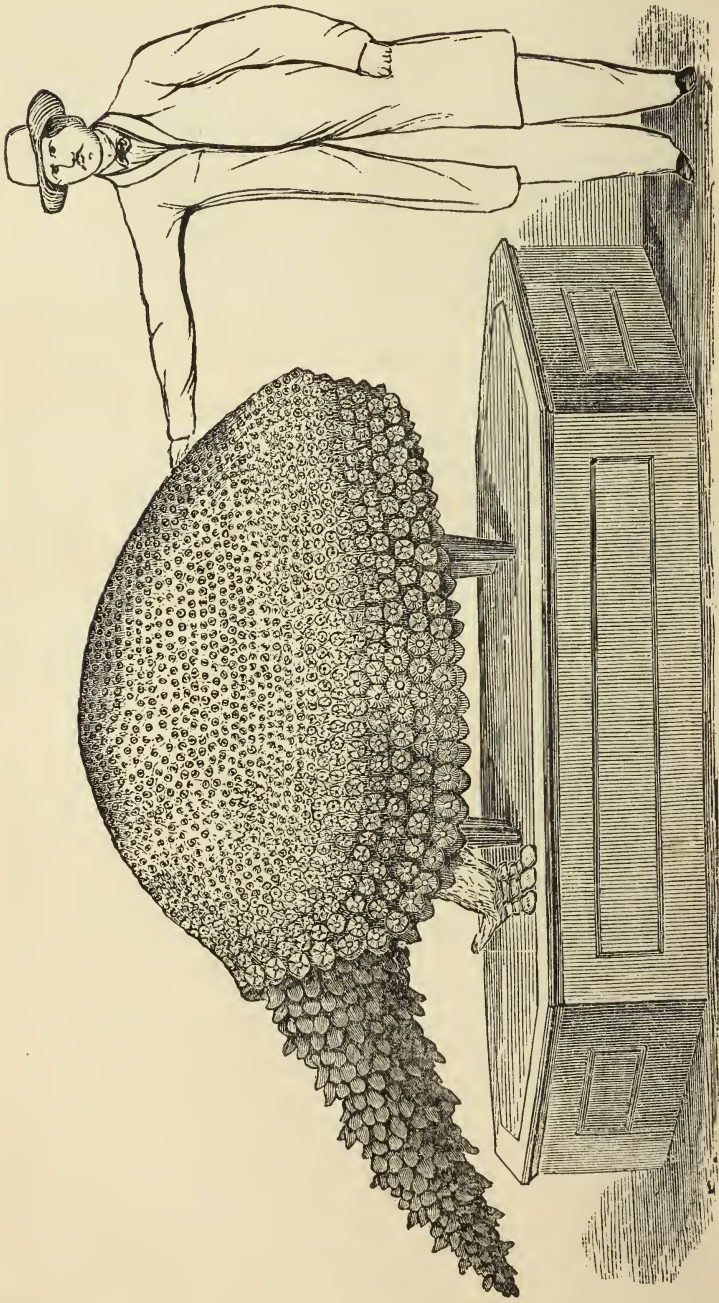
## Schistopleurum typus.

In front of the Megatherium, and hardly less imposing, is the great fossil Armadillo from the same Pampean deposit, the *Schistopleurum typus*.[6] The original was found near Montevideo in 1846, on the borders of the River Luxan, by Dr. F. X. NUMEZ; and presented, by order of the Dictator ROSAS, to Vice-Admiral DUPOTEL, who gave it to the Museum of Dijon, his native city. M. NODOT, Curator of the Museum, describes it in the Memoirs of the Academy of Dijon in 1856. Like the Megatherium, it belonged to an age when nearly all families of mammals were represented by larger forms than at the present day.

The body is covered by a ponderous coat of mail (the original weighs about 4000 lbs.) formed by polygonal plates,* none of which are disposed in bands as in the living Armadillo, but which were all firmly articulated to each other: the animal, therefore, could not contract or bend its body into a ball as does its modern puny representative. This specimen received its generic title because it seemed to show the beginning of such a division: the carapace is much warped, and, in several places, indented, probably during the life of the animal. It measures six feet eight inches in length and nine feet two inches across, following the curve, at the middle of the back. The skull was likewise defended by a tessellated bony casque, and is also remarkable for the long backward-curved apophysis descending from the zygoma as in the Megatheroids.† The animal possessed a clavicle, yet seized

* In the Schistopleurum, these plates or ossicles are mostly hexagonal; in the Glyptodon, pentagonal

† The skull is wanting in this cast, but will soon be added.



6. SCHISTOPLEURUM TYPUS.

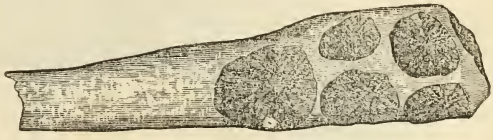
its food with its lips and tongue. All the Pleistocene Armadillos had fluted teeth, and were phytophagons: the modern species, except the Apara of the Pampas, are carnivorous. The tail had its independent osseous sheath, supported by the vertebræ within, and was well suited to strike a severe blow. The femur is flattened in front and behind, and widens out laterally as in the Megatherium.

7.



The tibia and fibula[7] are soldered together, and, with the massive club-like foot, formed a firm support while the creature used its forelegs. The heavy tail served, at the same time, as a prop or an anchor.

8.



8.



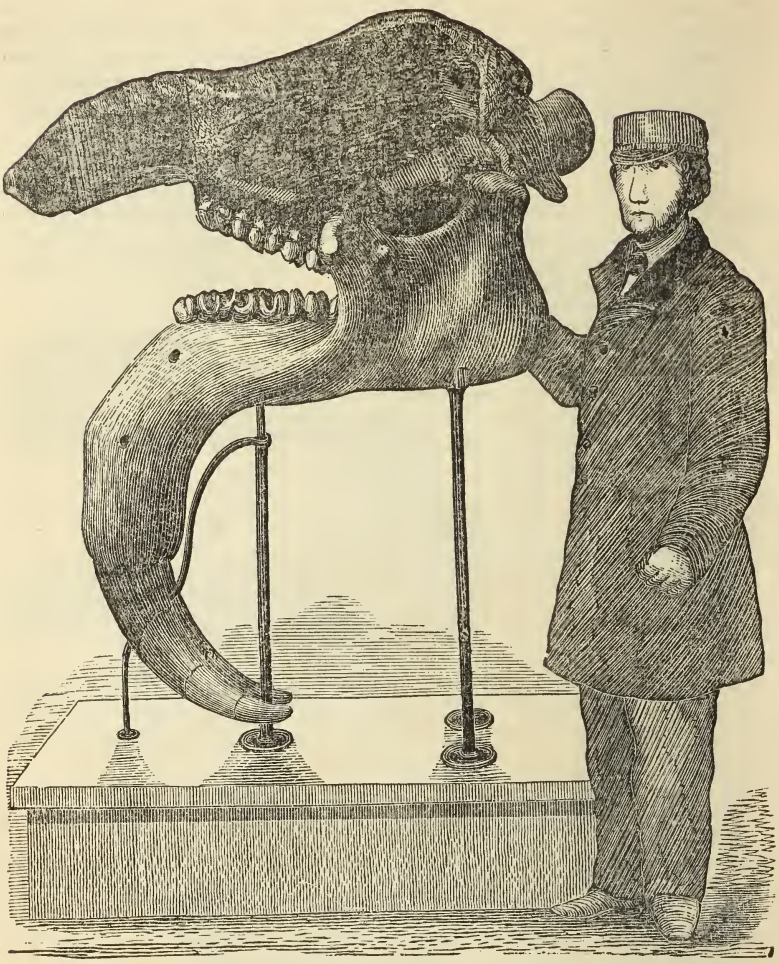
Lying on the same pedestal are the tails of the *Glyptodon clavicaudatus* and *G. clavipes*;[8] the latter showing the vertebræ at the upper end, and exemplifying finely the relation of the endo- and exo-skeletons. They are each three feet long.

## Dinotherium giganteum.

On the left of the observer, as he faces the Megatherium, are the largest fossil skulls thus far discovered. The one whose enormous down-curving tusks remind one of the Walrus, belongs to the *Dinotherium giganteum*.[9] The original was discovered by Dr. KLIPSTEIN, near Eppelsheim, in a bed of sand and marl of the Miocene Tertiary containing marine shells, and is now preserved in the Museum at Darmstadt. It was first described by Prof. KAUP. The teeth had previously been found in France, Bavaria and Austria; and, from their close analogy with those of the Tapir, were described by CUVIER as belonging to an extinct colossal animal of that genus. Fragments of the same mammal have been discovered also in America in the Miocene deposits of Perim island, Gulf of Cambay, and in Tertiary formation limestone at the foot of the Pyrenees. The remains are associated with the Hippopotamus, Rhinoceros, Mastodon, Palæotherium, Anoplotherium, Machairodus, Horse, Ox, Antelope, Ape, Hog, Dog, Wolf, Cat, Leamantine, Morse, Seacalf and Dolphin, all of extinct species.

The skull is three feet eight inches in length: it is characterized by a very flat occipital bone (approximating in form the occiput of Cetacea), large nasal aperture opening above, and large suborbital fossæ, which, together with the form of the nose, seem to indicate the presence of a short proboscis. Ths teeth $\frac{5}{5}-\frac{5}{5}$ are all molars, and belong to the bilophodont or two-ridged type, as in the Tapir, Megatherium, Kangaroo and Manatee. The large deflected tusks are, in fact, two huge recurved incisors implanted in a pro-

9.



Head of the Dinotherium.

longation of the symphysis of the lower jaw. The skull, scapula, femur and pelvis(?) are the only parts yet discovered. The scapula resembles that of a Mole. The femur, which lies on the pedestal under the head, is the largest thigh-bone known to naturalists; measuring five feet in length, and two feet four inches in greatest circumference of shaft. Cuvier and Kaup calculated that the animal must have attained the extraordinary length of eighteen feet.

Professor Kaup regards the Dinotherium as intermediate between the Mastodon and Tapir, and truly terrestrial; while MM. DeBlainville and Pictet consider it an aquatic herbivore resembling the Lamantin, and inhabiting the embouchures of great rivers. In the general shape of the skull and aspect of the nostrils, according to Owen, the Dinotherium most resembles the Manatee or Dugong; "but bones of limbs have been found so associated with teeth as to determine the Dinotherium to be a hoofed quadruped, of probably aquatic habits, and transitional, as it would seem, between the large Lophiodorus and the huger proboscideans."

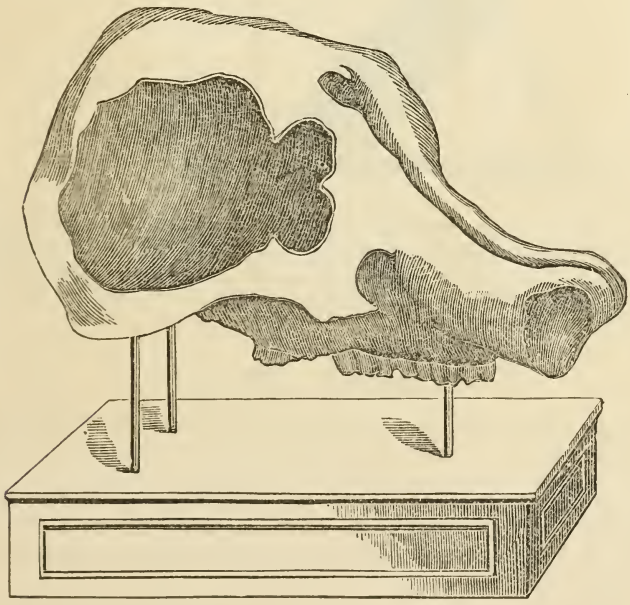
In the last number (November 1864) of the American Journal of Science

is noticed briefly the discovery, in the Department of the Haute-Garonne in Southern France, of an immense fossil pelvis, supposed to belong to the Dinotherium. This is five feet eleven inches from one crest to the other of the iliac bones, and four feet three inches in a line cutting it vertically. In its lower portion are two subtriangular depressions which are evidently articulating cavities, in which fitted *marsupial* bones. This discovery renders it very probable that the Dinotherium was a marsupial animal; although it is still as uncertain as before to what exact order of animal this didelphic feature was, in this case, added.

## Mastodon giganteus.

By the side of the Dinotherium, enclosed by the same railing, is the head of the *Mastodon giganteus*, disinterred from a post-glacial fluviatile deposit in Orange county, N.Y. It is the largest elephantoid skull that has ever been discovered.[10] The cranium is convex and cellular; and from the great

10.



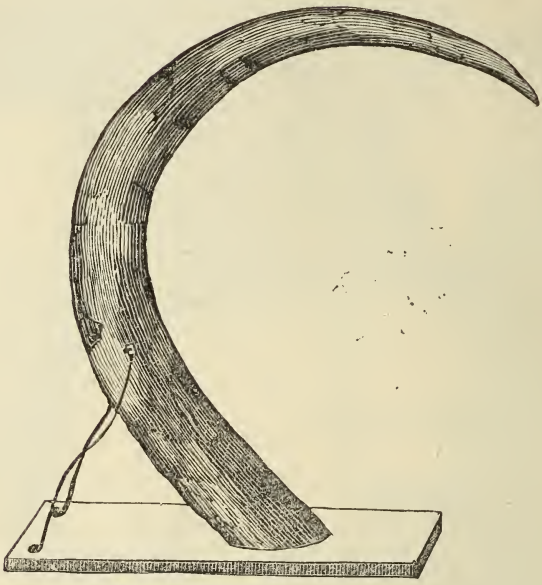
cavities in front, once protruded enormous tusks. The teeth are composed of dentine with enamel spread over the crown, which is divided into several transverse tubercles, each of which is subdivided into two obtuse points, the transverse furrows not being filled up with cement as in the Elephant. The dental formula is as follows, *d* standing for deciduous :

$$d\ \text{i},\ \tfrac{1-1}{\ }\ ;\quad \text{i},\ \tfrac{1-1}{1-1}\ ;\quad \text{c},\ \tfrac{0-0}{0-0}\ ;\quad d\ \text{m},\ \tfrac{3-3}{3-3}\ ;\quad \text{p},\ \tfrac{1-1}{1-1}\ ;\quad \text{m},\ \tfrac{3-3}{3-3} = 34.$$

The molars progressively increase in size, and most of them in complexity, and in their growth follow each other from behind forwards. Not more than three were in use at any period on one side of either jaw. All, save the penultimate, were shed by the time the crown of the last had cut the gum.

Beneath the skull,[10½] on the pedestal, are the tusk of another specimen

10½.



from St. Catharines (Canada), and a portion of a lower jaw and teeth from Missouri. There is hardly a portion of the United States, or indeed of the North-American continent, which has not offered some remains of this elephantoid animal which once roamed its surface in vast herds.

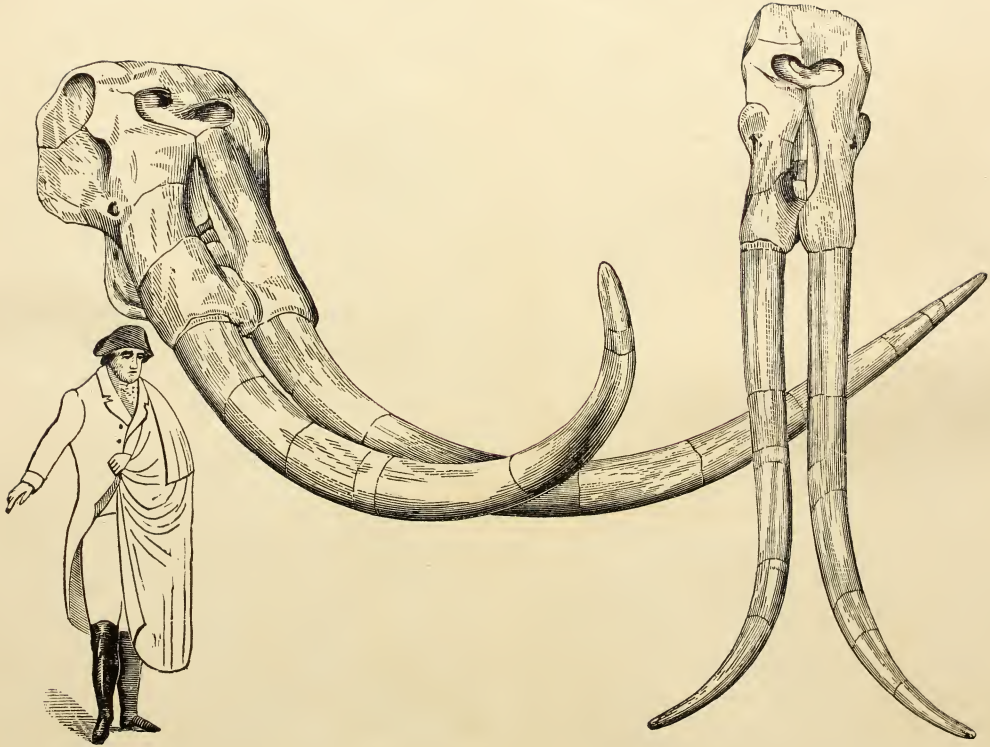
## Elephas ganesa.

In the east window, on a long pedestal, is mounted a very perfect head of the *Elephas ganesa*, a fossil Mammoth from the Sewalik hills, outliers of the Himmalaya mountains in India. The original, preserved in the British Museum, was obtained by Dr. FALCONER and Major CAUTLEY. The Tertiary deposit, in which it was discovered, consists of concretionary grit, conglomerate, sandstone and loam; and contains lignite, trunks of dicotyledonous trees, and land and freshwater shells.

The length of the skull[11] is four feet two inches; width, twenty-nine inches. The tusks are ten feet six inches long, and twenty-six inches in circumference at the base. In consequence of their slight curvature, they project eight feet five inches in front of the head. Their apparent disproportion to the size of the skull is truly extraordinary, and exemplifies the maximization of dental development. The weight which they, by their great leverage, must have added to the skull of the living animal, can hardly be estimated at less than two thousand pounds!

At either end of the Gallery, in the recesses formed by the windows, are four handsome cases with glazed top and front, in which, on receding shelves, are exhibited a numerous series of smaller fossils arranged with a zoological grouping. In the first case (on the north wall) are twenty-eight

11.— Skull of the Elephas ganesa.

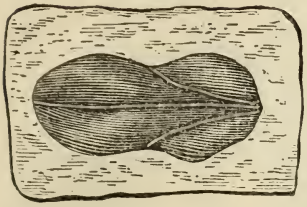


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## Fossil Articulates, Mollusks and Radiates.

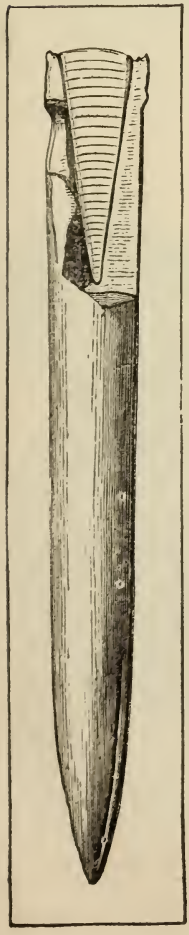
They are as follows :

12.



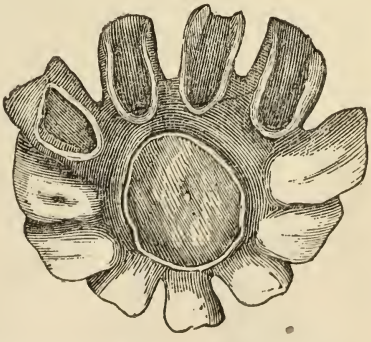
No. 1. *Beloteuthis subcostata.*[12] Internal bone of fossil cuttlefish.
Lias: Holzmaden, Wirtemberg.

13.



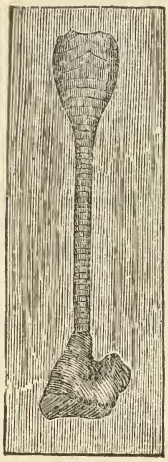
No. 2. *Belemnites oweni.*[13] Specimen showing the "phragmocone" or chambered float, in place, in the upper end or alveolar cavity of the "guard".
Oxford clay: Chippenham, England.

14.



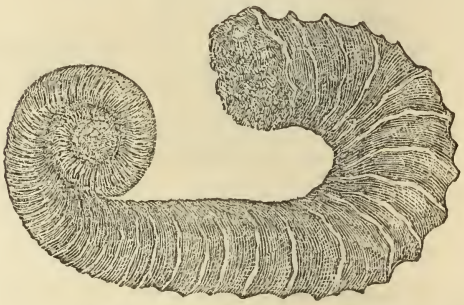
No. 3. *Amorphozoum?*[14] A fossil sponge a foot in diameter, with eleven beautifully radiating and recurved hollow fingers.
Lower Silurian: Franklin county, Kentucky.
(☞ Specimen still undescribed.)

15.



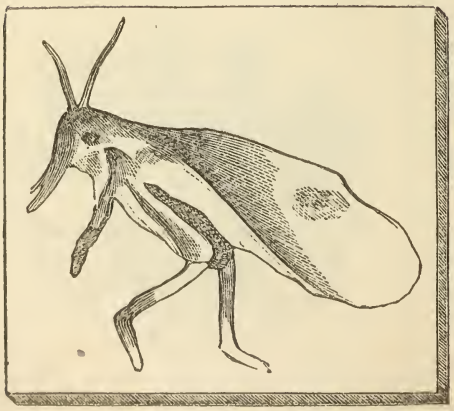
No. 4. *Apiocrinus parkinsoni*,[15] Pear Encrinite. Specimen with calyx, stem and root complete.
Great Oolite: Hampton, England.

16.



No. 5. *Ancyloceras* (*Scaphites*) *gigas*.[16] A full-grown and unusually perfect specimen.
Lower Greensand: Atherfield, Isle of Wight, England.

17.



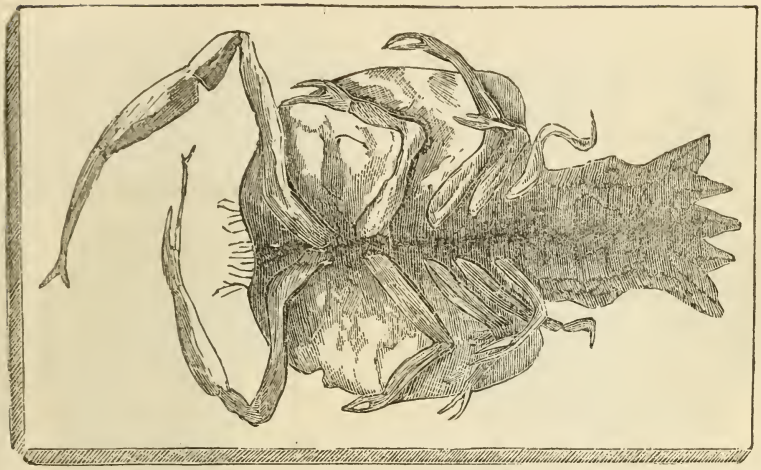
No. 6. *Dalmania nasuta*.[17] Specimen showing the bifurcated frontal process.
Lower Helderberg: Schoharie, N.Y.

18.



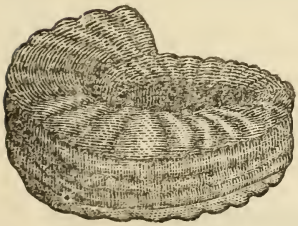
No. 7. *Ammonites birchii*.[18]
Lias: Lyme Regis, England.

19.



No. 8. *Eryon propinquus.*[19]
Lithographic limestone (Upper Oolite): Solenhofen, Bavaria.

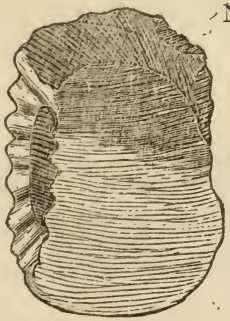
20.



No. 9. *Ammonites bucklandi*[20] (Group "Arietes" of Von Buch).
Lias: Boll, Wirtemberg.

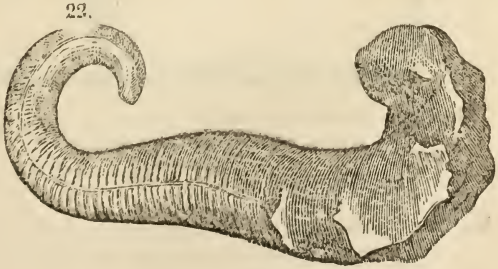
No. 10. *Cancrinus latipes.*
Lithographic limestone (Upper Oolite):
Eichstädt, Bavaria.

21.



No. 11. *Ammonites blagdeni*[21] (Group "Coronarii" of Von Buch).
Great Oolite: Yorkshire, England.

22.



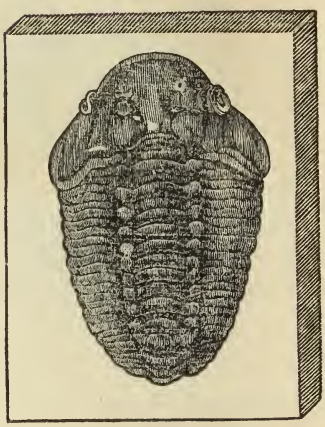
No. 12. *Ancyloceras andouli.*[22]
Lower Greensand: Cheiron, France.

23.



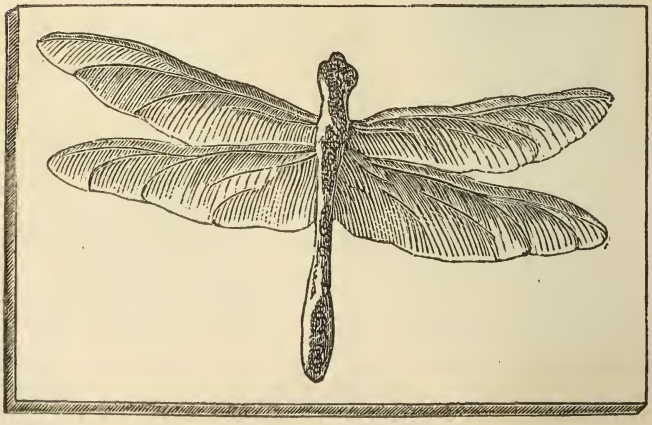
No. 13. *Ammonites* ———[23] (Group "Falciferi" of Von Buch). Oolite: France.

24.



No. 14. *Calymene blumenbachii.*[24] Upper Silurian: Dudley, England.

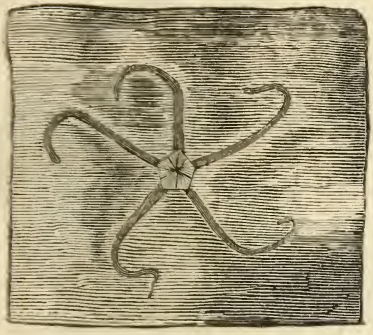
25.



No. 15. *Æschna eximia.*[25] Beautiful fossil Libellula or Dragonfly, with wings spreading six inches. Lithographic limestone (Upper Oolite): Solenhofen, Bavaria.

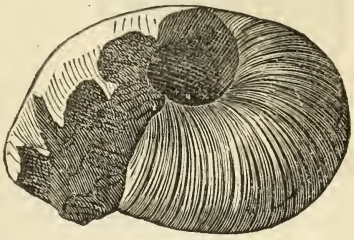
No. 16. *Ammonites rothomagensis?* Interior cast of portion of outer whorl, showing the lobed edges of septa. Chalk marl: Rouen, France,

25½.



No. 17. *Ophioderma egertoni.*[25½] One of the most perfect and beautiful of the Ophiuridæ.
Lias: Lyme Regis, England.

26.



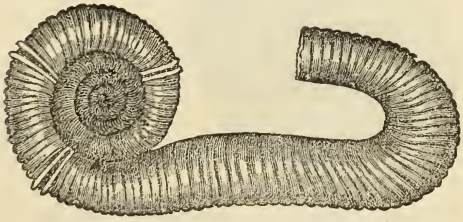
No. 18. *Ammonites macrocephalus*[26] (Group "Macrocephali" of Von Buch).
Oxford clay: Wiltshire, England.

27.



No. 19. *Toxoceras moutonianus.*[27] Very perfect specimen, over two and a half feet long.
Lower Greensand: Escragnolles, France.

28.



No. 20. *Scaphites ivani.*[28] Specimen with the whorls of the early age of the shell quite distinct.
Lower Greensand: Barrême, France.

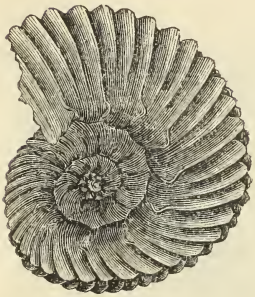
29.



No. 21. *Cidaris blumenbachii.*[29] Specimen with the spines still adhering.
Coral Rag: Wiltshire, England.

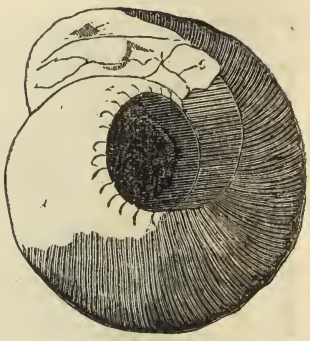
No. 22. *Hippurites radiosa.* Lower valve.
White Chalk: Vache-Perdue, France.

30.



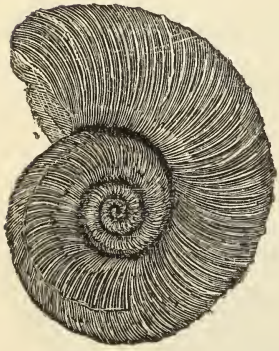
No. 23. *Ammonites lautus*[30] (Group "Dentati" of Von Buch).
Gault: Folkestone, England.

31.



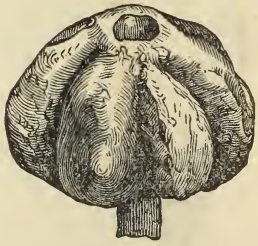
No. 24. *Ammonites modiolaris*[31] (Group "Coronarii" of Von Buch).
Oxford Clay: Chippenham, England.

32.



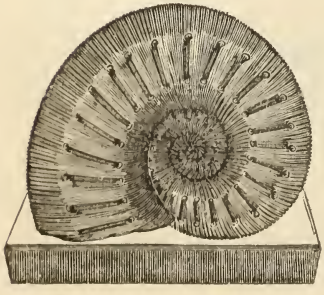
No. 25. *Ammonites fimbriatus*[32] (Group "Ligati" of D'Orbigny).
Lias: Lyme Regis, England.

33.



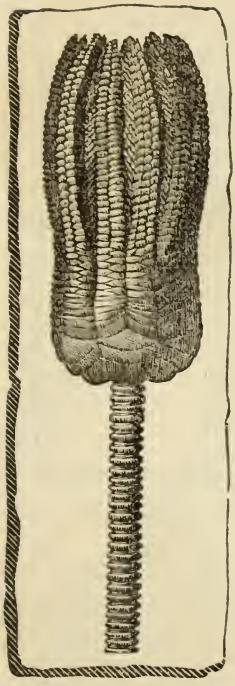
No. 26. *Siphonia* (*Halirhoa*) *lobata*.[33]
Upper Greensand: Warminster, Wiltshire, Eng.

34.



No. 27. *Ammonites henleyi*.[34]
Lias: Lyme Regis, England.

35.



No. 28. *Encrinus liliiformis.*[35] A very interesting Crinoid, showing with beautiful distinctness the discs, which, standing on each other with articulating surfaces, form the supporting column; also the several pieces of the calyx, and the many thousand ossicles which enter into the composition of the ten arms.

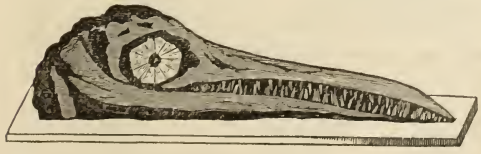
Species confined to the Muschelkalk (Middle Trias). Brunswick, Germany.

The second window-case. east of the one already noticed, contains

## Fossil Reptiles and Fishes.

They are :

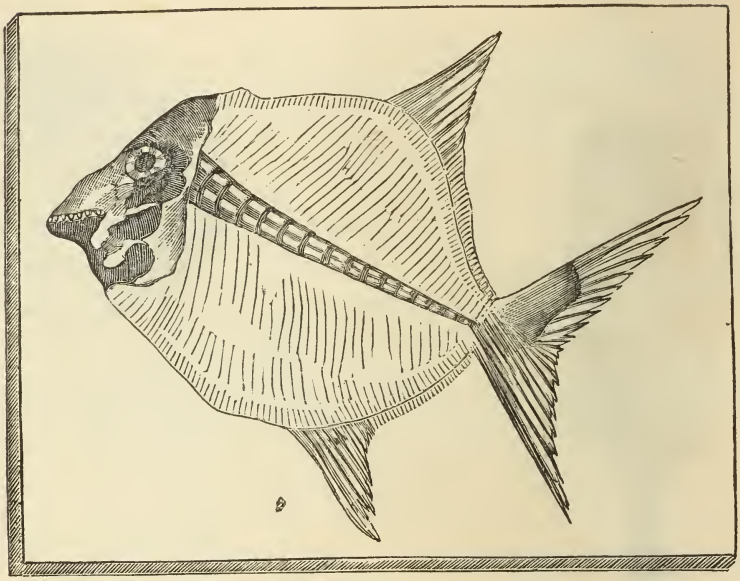
36.



No. 29. *Ichthyosaurus communis.*[36] A fine head, having all the bones and teeth complete and in true position, and showing well the sclerotic plates which defended the eye.

Lias: Barrow-on-Soar, England.

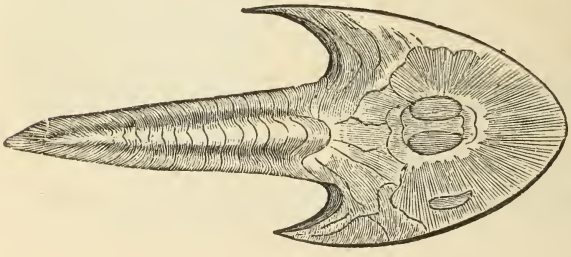
37.



No. 30. *Microdon* (*Pycnodus*) *elegans.*[37] A beautiful Ganoid fish, with homocercal tail and long pointed dorsal and anal fins.
Lithographic limestone (Upper Oolite): Bavaria.

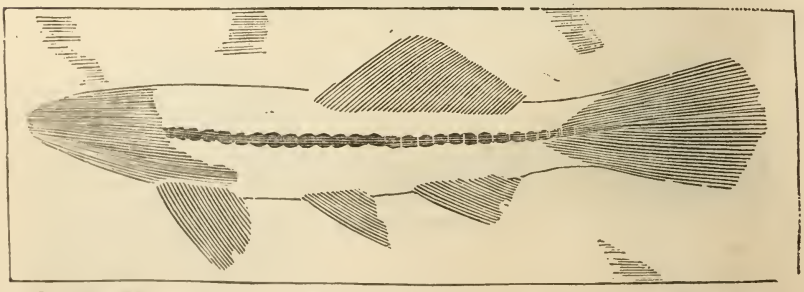
No. 31. *Sapheosaurus laticeps.* Small fossil Lizard; body and extremities complete. Lithographic limestone (Upper Oolite): Kelheim, Bavaria.

38.



No. 32. *Cephalaspis lyelli.*[38] A well-known Ganoid fish, with buckler head, thin triangular body and heterocercal tail.
Old Red Sandstone (Devonian): Glammiss, Forfarshire, Scotland.

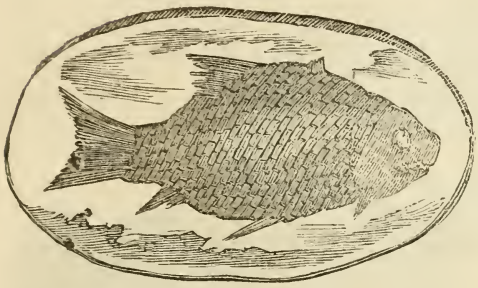
39.



No. 33. *Megalurus elegantissimus.*[39] Small Ganoid fish, with largely expanded tail.
Lithographic limestone (Upper Oolite): Solenhofen, Bavaria

No. 34. *Undina striolaris.* Ganoid fish of the family of "Cœlocanths," or those with hollow bones.
Lithographic limestone (Upper Oolite): Kelheim, Bavaria.

40.



No. 35. *Lepidotus minor.*[40] A fine Ganoid fish, with homocercal tail & bright-shining scales.
Purbeck limestone (Upper Oolite): Isle of Portland, England.

41.



No. 36. *Pterodactylus crassirostris.*[41] Copy of the most perfect specimen of this fossil that has ever been found.
Lithographic limestone (Upper Oolite): Solenhofen, Bavaria.

42.



No. 37. *Placodus gigas.*[42] Skull entire, with both maxillary and palatal series of teeth. These latter are, relatively, larger than those of any other known animal, living or fossil. No part of the animal, save the head, is known; but it is believed to have been a marine saurian, which frequented the seashores and fed upon the hard-shelled mollusks, crushing them between its hard rounded teeth.
Muschelkalk (Middle Trias): Laineck, Bavaria.

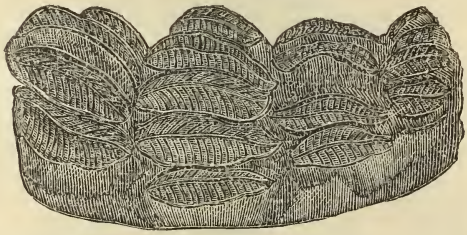
43.



No. 38. *Andrias tschudi.*[43] Fossil Salamander. It was a larger adult specimen of this fossil which was erroneously supposed by SCHEUZER to be a human skeleton, and was described by him, nearly a century and a half ago, as "*Homo diluvii testis*"!

Miocene Tertiary: Œningen, Switzerland.

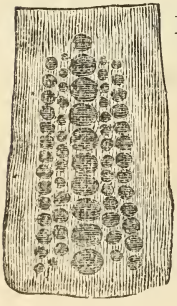
44.



No. 39. *Acrodus nobilis.*[44] Palatal teeth, with their peculiar surface linings.

Lias: Lyme Regis, England.

45.



No. 40. *Gyrodus umbilicus.*[45] A fine series of palatal teeth.

Upper Oolite: Durrheim, Duchy of Baden.

No. 41. *Pycnodus platessus.* Fossil fish.

Eocene Tertiary: Monte Bolca, Lombardy.

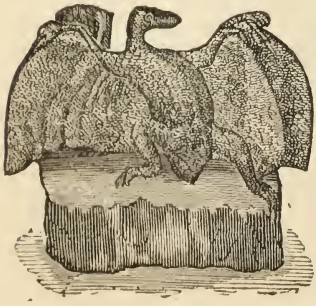
No. 42. *Mesturus verrucosus.* Fossil fish nearly two feet long.

Lithographic Limestone: Eichstädt, Bavaria,

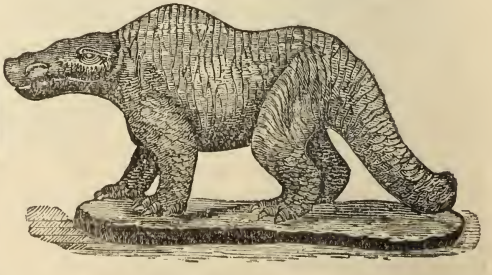
In the recess of the southeast window is a case of

## Fossil Reptiles.

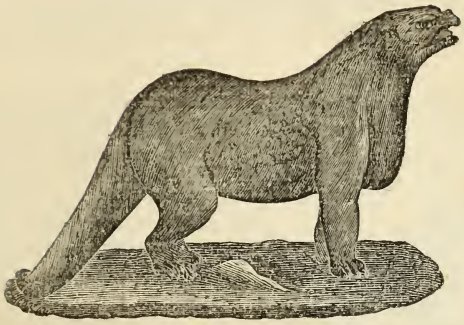
No 43. PTERODACTYLE : fig. 46.



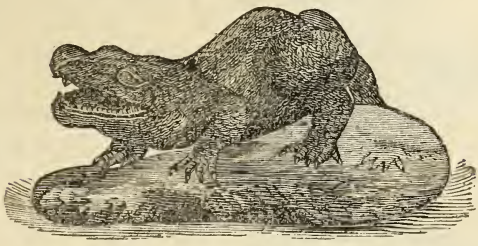
No. 44. MEGALOSAURUS : f. 47.



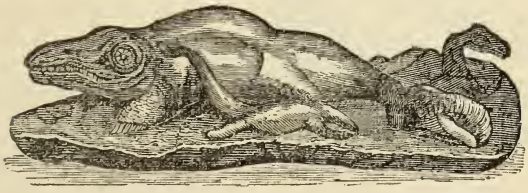
No. 45. Iguanodon : f. 48.



No. 46. Labyrinthodon : f. 49.



No. 47. Ichthyosaurus : f. 50.



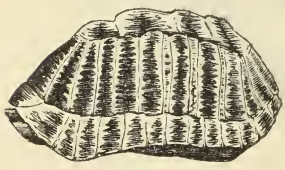
Nos. 43 – 49 (figs. 46 – 50) are restorations of the *Pterodactyle*, *Megalosaurus*, *Iguanodon*, *Labyrinthodon*, *Ichthyosaurus*, *Plesiosaurus dolichodeirus* and *P. macrocephalus*. They are reduced (one inch to the foot) from the gigantic models in the Crystal Palace, London; constructed to scale by B. Waterhouse Hawkins, F.G.S., F.L.S., from the form and proportions of the fossil remains, and in strict accordance with the scientific deductions of the British Cuvier, Professor Owen. Preliminary drawings, with careful measurements of the originals in the Royal College of Surgeons, British Museum and Geological Society, were prepared, and sketch models made at a fraction of the natural size, and submitted to the above high authority. Clay models were then made of the natural size.

To give an idea of these monster Saurians, Mr. Hawkins states that the Iguanodon, as it now stands in the Crystal Palace, is composed of four iron columns 9 feet long by 7 inches in diameter, 600 bricks, 1550 tiles, 38 casks of cement, 90 casks of broken stone, with 100 feet of iron hooping and 20 feet of cube inch bar. It was modelled after the great Horsham specimen; and the mold was afterward converted into a *salle à manger*, in which Prof. Owen, Prof. Forbes and twenty other scientific gentleman sat down to dinner. The beautiful restorations in the Wadsworth Collection are faithful copies, in miniature, of the gigantic group in London. Fossil re-

mains, for the most part, are found only in a fragmentary state. When then the dry bones are thus seemingly clothed with flesh, a more accurate knowledge of the wonders of Creation is communicated to the mind than by any scientific description.

No. 50. *Teleosaurus minimus.* Head of the smallest individual of the genus yet described, showing well the orbital sockets and the nasal fossæ. Lias : Wirtemberg.

51.



No. 51. *Emys hamiltonoides.*[51] Turtle : carapace and plastron complete. Miocene Tertiary : Sewalik hills, India.

52.

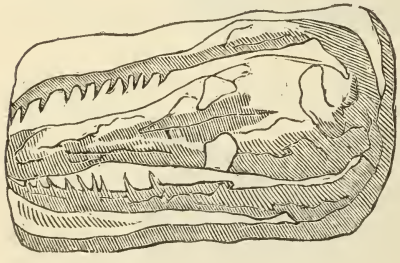


No. 52. *Nothosaurus mirabilis.*[52] Skull, with finely preserved teeth. Muschelkalk: Bayreuth, Bavaria.

No. 53. *Ichthyosaurus communis.* Skull, with jaws and teeth complete. Lias: Lyme Regis, England.

No. 54. *Crocodilus spenceri.* Skull. Eocene Tertiary: Isle of Sheppey, England.

53.



No. 55. *Archegosaurus decheni.*[53] Head complete. Coal measures: Saarbrück, Rh. Prussia.

In the fourth window-recess, on the south side of the room, is a final window-case, which contains

## Fossil Mammals and Birds.

They are

54.

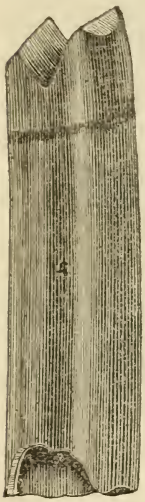


No. 56.

*Anoplotherium communis.*[54] A very perfectly preserved head of this interesting animal, which was thought by CUVIER, who first described it, to hold an intermediate position between the Rhinoceros & Horse. The most remarkable

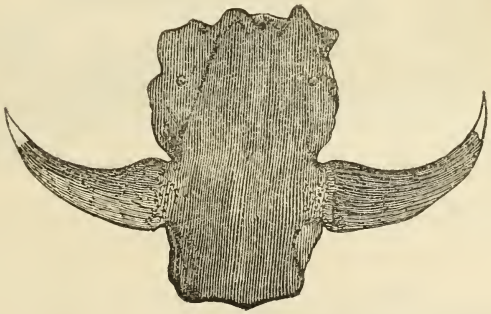
feature of the skull, and that from which the genus took its name, is the full dentition ; six incisors in each jaw, without any interval between them and the molars. Eocene Tertiary: Paris, France.

55.



No. 57. *Megatherium cuvieri.*[55] Molar tooth, showing pulp cavity and bilophodont crown.
Pleistocene: Buenos Ayres.

56.



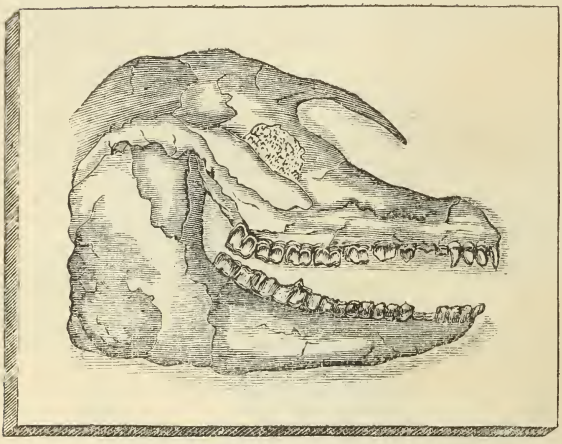
No. 58. *Bootherium bombifrons.*[56] Skull with horns ; very well preserved.
Pleistocene: Big-bone Lick, Kentucky.

57.



No. 59. *Zeuglodon cetoides.*[57] Molar tooth.
Eocene Tertiary: Claiborne, Alabama.

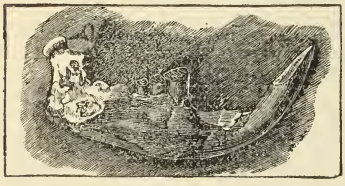
58.



No. 60. *Palæotherium crassum* [58] Perfectly preserved head. Specimen first described by CUVIER.
Eocene Tertiary:
Paris, France.

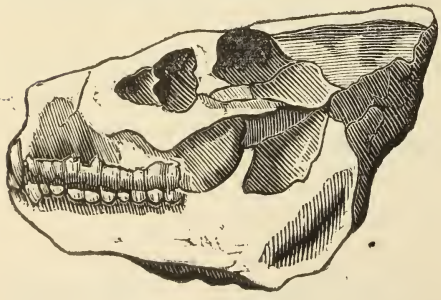
No. 61. *Tapirus auvernensis*. Portion of skull of fossil Tapir.
Pliocene Tertiary: Auverne, Central France.

59.



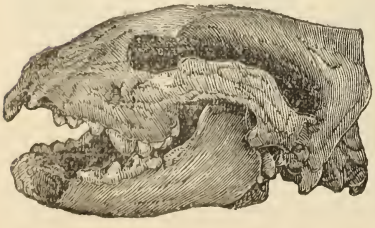
No. 62. *Trogonotherium cuvieri.*[59] Lower jaw (left ramus) of fossil Beaver.
Pliocene Tertiary: Norfolk, England.

60.



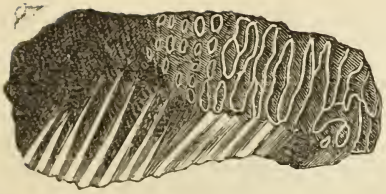
No. 63. *Oreodon culbertsoni.*[60] Skull entire.
Eocene Tertiary:
Mauvaises Terres, Nebraska.

61.



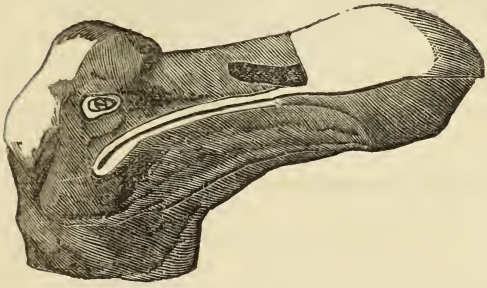
No. 64. *Gulo spelæus.*[61] Head of fossil Glutton.
Cavern deposit (Pleistocene):
Gailenreuth, Germany.

62.



No. 65. *Elephas americanus.*[62] Tooth of Mammoth.
Pleistocene:
St. Catharines, Canada West.

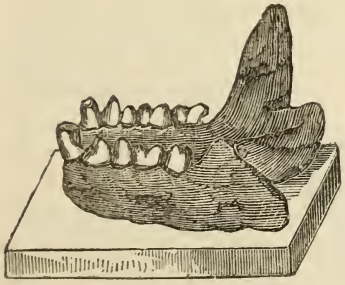
63.



No. 66. *Dodo ineptus.*[63] Head. This specimen is of the highest interest; belonging, as it does to a species which has become extinct during the present or historical period.
Pleistocene:
Island of Mauritius.

No. 67. *Sivatherium giganteum.* Lower jaw; left ramus.
Miocene Tertiary: Sewalik hills, India.

64.



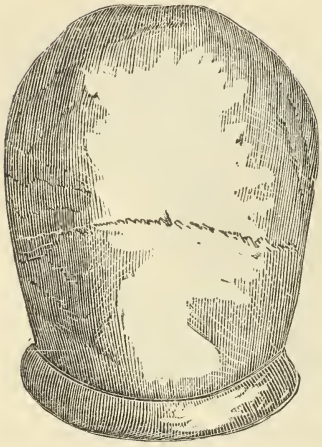
No. 68. *Pliopithecus antiquus.*[64] Lower jaw of fossil Monkey.
Miocene Tertiary:
Auvergne, Central France.

65.



No. 69. *Palæotherium crassum.*[65] Left hindfoot.
Eocene Tertiary: Paris, France.

66.



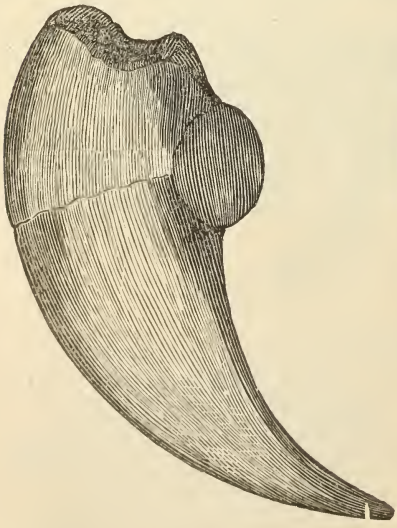
No. 70. Human Skull,[66] discovered in 1857, in a limestone cave in the Neanderthal, between Düsseldorf and Elberfeld. The rest of the skeleton was found with it. The part of the cranium preserved consists of the portion above the roof of the orbits, and the superior occipital ridges. It includes almost the whole of the frontal bone, both parietals, a small part of the temporals, and the upper part of the occipital. The surface of the original is covered with delicate dendrites. It is the most pithecoid of human crania yet discovered, and has a very small cerebral development. The posterior cerebral lobes must have projected considerably beyond the cerebellum; thus showing a similarity to certain Australian skulls. The conclusions of Prof. HUXLEY are: First, that the extraordinary form of the skull is due to a natural conformation, hitherto not known to exist even in the most barbarous races; secondly, that it belongs to a period antecedent to the time of the Celts in Germany, and was in all probability derived from one of the wild races of Northwestern Europe (*autochthonus*); and thirdly, that it is beyond doubt traceable to a period at which the latest animals of the diluvium still existed. Further facts on the subject may be found in LYELL'S *Antiquity of Man.*

No. 71. *Dodo ineptus.* Foot; skin still covering. Pleistocene: Isle Mauritius.

No. 72. *Rhinoceros* ——. Lower jaw; right ramus. Pliocene: Central France.

No. 73. *Rhinoceros minutus.* Last molar tooth. Miocene: Steinheim, Wirtemberg.

67.





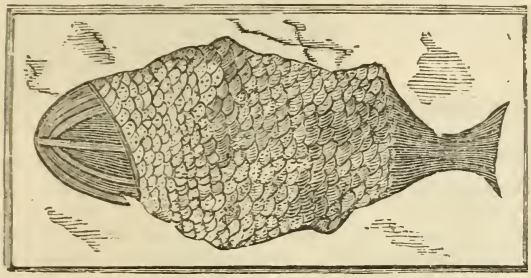
No. 74. *Megalonyx jeffersoni.*[67] Ungual phalanges. Pleistocene: Cave in Greenbriar co., Western Virginia.

No. 75. *Anchitherium bairdii.* Head. Eocene: Mauvaises terres, Nebraska.

No. 76. *Palæotherium crassum.* Lower jaw. Eocene Tertiary: Paris, France.

The series is next continued in the wall-case, immediately to the right of the window-case just noticed :

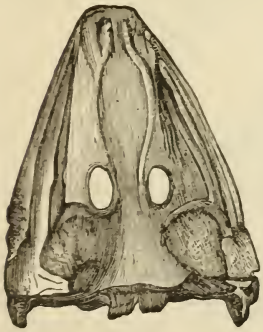
68.



No. 77.
*Holoptychius nobilissimus.*
Very perfect and well-preserved Ganoid fish.[68]
Old Red Sandstone (Devonian):
Clashbennie, Scotland.

No. 78. *Testudo* ——. Turtle, 23 inches long and 18th inches broad ; carapace and plastron complete.
Miocene Tertiary: Sewalik hills, India.

69.



No. 79. *Labyrinthodon jægeri.*[69] Head, with lower jaw firmly closed. The portions of this most singular fossil which have thus far been found, show that it belonged to the order of Batrachia, and was most nearly allied to the Frogs among living animals. Its length, as estimated by OWEN, was about nine feet.
Upper Trias (Keuper): Wirtemberg.

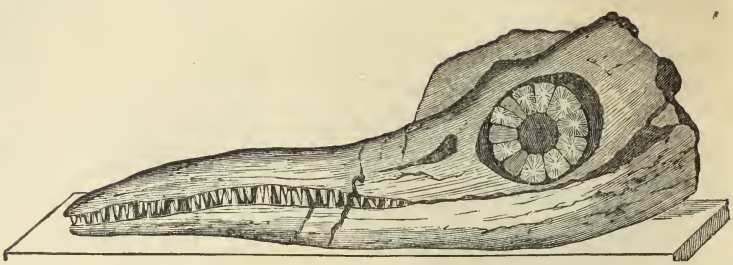
70.



No. 80. *Anomœpus major.*[70] Tracks of hind-feet, with impressions made by coccygeal bone (See HITCHCOCK's *Ichnology of Massachusetts*, pp. 59 & 60).
Trias? Greenfield, Massachusetts.

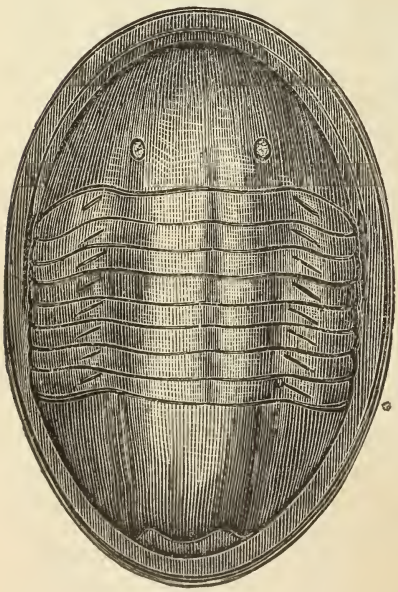
No. 81. ———.

71.



No. 82. *Ichthyosaurus platyodon.*[71] This head, five feet in length, is the largest which has ever been found of this huge fossil Enaliosaurian, or Marine Lizard. The muzzle is entire, and armed with many score of formidable teeth. The eye, seven and a half inches in diameter, is cased by an armor of sclerotic plates, which protected it against the many injuries to which it was subject in the fierce encounters in which the animal engaged. The original head, which must have belonged to an individual over sixty feet in length, was found in the beds of Lias, Lyme Regis, England.

72.



No. 83. *Isotelus megistus.*[72] This specimen, 22 inches in length, is a restoration, by aid of actual fragments which have been found. It shows well the head and tail-shields, and the intervening movable segments by means of which the animal could fold or double its body together.

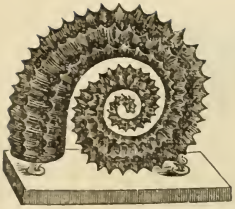
Lower Silurian: Cincinnati, Ohio.

73.



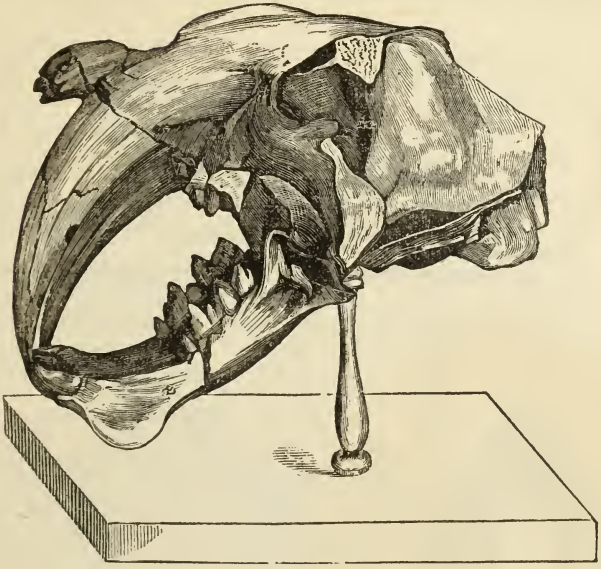
No. 84.
*Leptorhynchus giganteus.*[73]
The muzzle, two feet long, of a huge Gavial-like Saurian.
Miocene Tertiary:
Sewalik hills, India.

74.



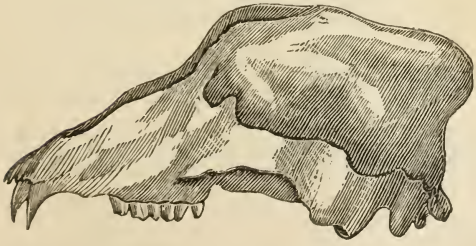
No. 85. *Crioceras humboldtianus.*[74] An interesting Cephalopod shell, whose open whorls are covered on every side with sharp conical spines.
Lower Cretaceous? SantaFé de Bogota, S.America.

75.



No. 86. *Machairodus neogæus.*[75] The head of this fossil Lion is armed with two trenchant sabre-like teeth, which gave it, while living, most terrible powers of destruction. Bone Caverns (Pleistocene): Brazil

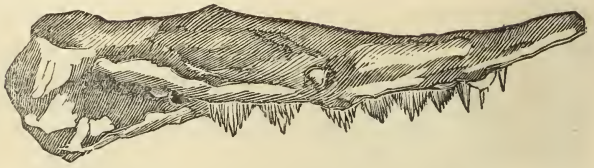
76.



No. 87. *Ursus spelæus.*[76] Skull of Great Cavern Bear.
Cavern Deposit (Pleistocene): Gailenruth, Germany.

No. 88. *Ichthyosaurus intermedius.* Posterior half of skull, with the eye and sclerotic plates deeply dissected out. Lias: Lyme Regis, England.

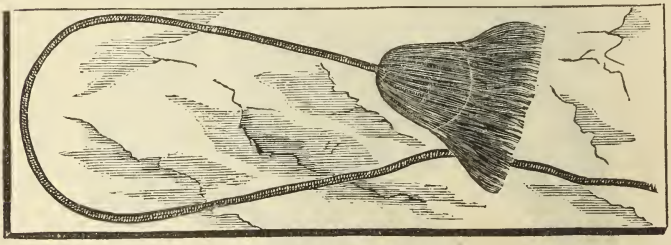
77.



No. 89. *Zeuglodon hydrarchus.*[77] A skull nearly three feet long.
Eocene Tertiary: Claiborne, Alabama.

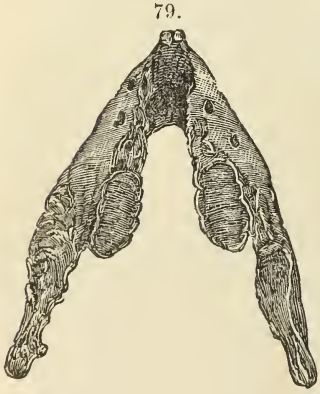
No. 90. *Rhinoceros palæindicus.* Skull. Miocene Tertiary: Sewalik hills, India.

78.



No. 91. *Pentacrinus subangularis.*[78] A very perfect specimen of this interesting Crinoid, with the arms expanded nearly a foot, and the stem over seven feet long. Lias: Boll, Wirtemberg.

79.



No. 92. *Elephas primigenius.*[79] Perfect lower jaw of a young individual, with the molar teeth still in place.
Pleistocene: Lippethal, Rhenish Prussia.

No. 93. *Rhinoceros schleyermacheri.* Lower jaw, left ramus of adult specimen. Miocene Tertiary: Germany.

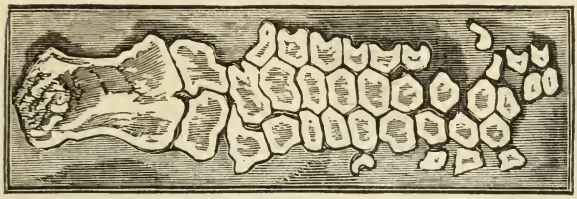
No. 94. *Pterodactylus rhamphastinus.* Skeleton nearly entire; on a slab. Lithographic limestone (Upper Oolite): Darting, Bavaria.

80.



No. 95. *Encrinus liliiformis.*[80] Slab (17 inches by 9), with three very perfect heads and stems.
Muschelkalk (Middle Trias): Brunswick, Germany.

81.



No. 96. *Ichthyosaurus platyodon.*[81] Paddle, three and one-half feet long.
Lias: Glastonbury, Somersetshire, England.

82.



No. 97.
*Eurysternum wagleri.*[82]
Small fossil Turtle, with extremities projecting beyond carapace.
Lithographic limestone (Upper Oolite): Solenhofen, Bavaria.

83.

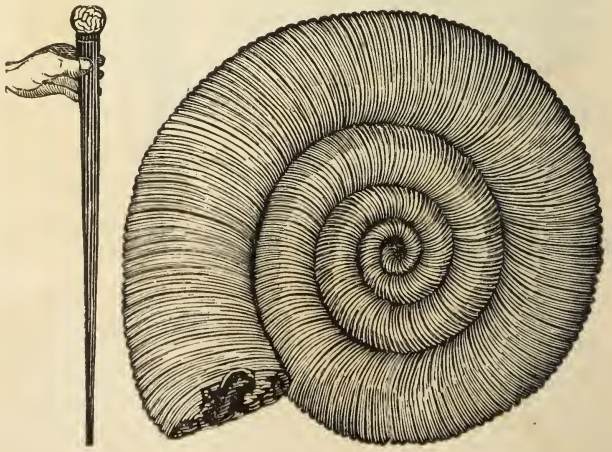


No. 98. *Cheirotherium barthi.*[83] Slab six feet in length, covered with large hand-shaped tracks, which have been referred to an extinct reptile provisionally termed Cheirotherium (hand-animal), but very probably identical with the Labyrinthodon (No. 79), whose remains have been found in the same locality. New Red Sandstone (Lower Trias): Jena, Germany.

No. 99. *Anoplotherium commune.* Hind-foot. Eocene Tertiary: Paris, France.

The remainder of the casts are to the left, in the wall-case between the third and fourth window-cases. They are :

84.



No. 100. *Ammonites giganteus.*[84] A perfectly preserved specimen of extraordinary size, being no less than two feet two inches in diameter. Upper Oolite: Isle of Portland, England.

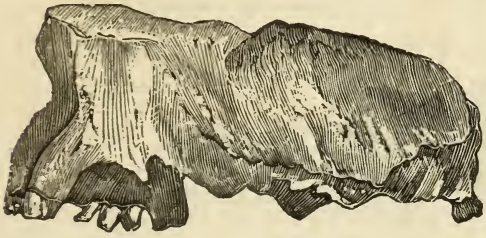
No. 101. *Gyrodus circularis.* Large Ganoid fish, perfectly preserved in all its parts; two feet six inches long.
Lithographic limestone (Upper Oolite): Wirtemberg.

85.



No. 102.
*Hexaprotodon* (*Hippopotamus*) *sivalensis.*[85] Skull two feet long.
Miocene Tertiary:
Sewalik hills, India.

86.



No. 103.
*Megalonyx jeffersoni.*[86] Skull. This extinct Sloth, a congener of the Megatherium and Mylodon, formerly inhabited many parts of the United States south of the Ohio. It was first discovered and described (1797) by Thomas Jefferson, President of the United States.
Pleistocene: Natchez, Mississippi.

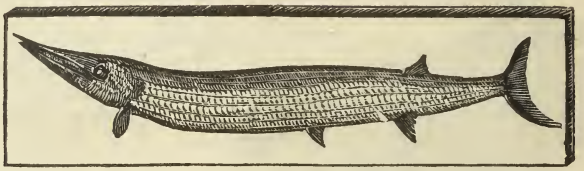
87.



No. 184. *Plesiosaurus macrocephalus.*[87] A very perfect specimen of this

long-necked Saurian, with its body bowed or bent around; on a slab 2 feet 11 inches, by 1 foot 5 inches. Lias: Lyme Regis, England.

88.



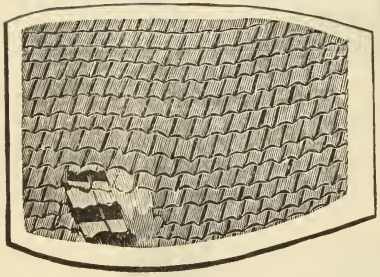
No. 105. *Aspidorhynchus speciosus.*[88] Fossil Fish.
Lithographic limestone (Upper Oolite): Eichstaedt, Bavaria.

89.



No. 106. *Phytosaurus* (*Belodon*) *kapffii.*[89] Skull.
Keuper (Upper Trias): Stuttgardt, Wirtemberg.

90.



No. 107. *Lepidotus maximus.*[90]
Fragment, 18 inches broad by 30 inches long, showing finely the ganoid style of scales.
Lithographic limestone (Upper Oolite): Solenhofen, Bavaria.

( C. )

# CATALOGUE OF PLANTS

FOUND IN

## ONEIDA COUNTY AND VICINITY.

By JOHN A. PAINE, Jr.

NOTE.

This Catalogue is designed to be a record of the observations of botanists who have resided in the central part of the State. Many names are given fully; others, of the most active, of necessity are abbreviated and without titles, but are well known in this branch of science: — Prof. Chester Dewey. D.D., LL.D., of Rochester; Prof. James Hadley, M.D., of Buffalo; Peter D. Knieskern, M.D., of Shark-river N.J.; Henry P. Sartwell, M.D., Ph.D., of Penn-Yan; Samuel B. Bradley, M.D., of West-Greece; Ithamar B. Crawe, M.D., formerly of Watertown; Professor Asa Gray, M.D., LL.D., of Cambridge, Mass.; Hon. George W. Clinton, LL.D., of Buffalo; Professor Jonathan Pearson, of Schenectady; William A. Wood, M.D., formerly of Dexter; George Vasey, M.D., of Ringwood, Ill.

When names are given, they are authority for all localities of the sentence in which they stand, but extend to no other sentence either preceding or following. When no name is given, the reference is founded on observation by the writer.

Utica, *December*, 1864.

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PHÆNOGAMIA. *Flowering Plants.*

I. DICOTYLEDONÆ. *Dicotyledons.*

1. ANGIOSPERMÆ. *Angiosperms.*

A. POLYPETALOUS EXOGENS.

RANUNCULACEÆ. *Crowfoots.*

ATRAGENE, *L.*

AMERICANA, *Sims.* *American Atragene.*

Shady rocks, woods and hillsides. Helderberg mountains, *Pearson.* Otsego county, *B. D. Gilbert.* Littlefalls, Herkimer county, south side of the Mohawk, along the cliff. Yates county, *Sartwell.* Frequent. May.

CLEMATIS, *L.* *Virgin's Bower. Traveller's Joy.*

VIRGINIANA, *L.* *Virginian Clematis.*

Open woods occasionally, often along fences, walls; common on the banks of streams. July – September.

ANEMONE, *L.* *Anemone. Wind-flower.*

MULTIFIDA, *DC.* *Many-parted-leaved Anemone.*

On limestone rocks along the Black river at Watertown, *Crawe, Gray in Rare plants of Northern N.Y.* On the rocky banks of the river at Watertown, just by the bridge of the Brownville road, *Gray.* Along the river-cliffs between Brownville and Dexter, *Vasey.* To be looked for on the Thousand Islands of the St. Lawrence, *Gray.* Rare. June.

CYLINDRICA, *Gray.* *Cylindrical-headed Anemone.*

In dry pine barrens, near Oneida lake, New-York, *Gray in Rare plants of Northern N.Y.* Pine plains, one mile north of New-London; abundantly a few miles above Watertown, *Knieskern.* Along the north side of the Black river, between Watertown and Dexter. Rare. May, June.

VIRGINIANA, *L.* *High Anemone.*

Barren hillsides, along fences, in ravines. Abundant. June – August.

PENNSYLVANICA, *L.* *Round-headed Anemone.*

Flats and banks of streams. Meadows of the Mohawk. Fish creek. Shores of the lakes. Abundant. June, July.

NEMOROSA, *L.* *Wood Anemone.*

Rich shady woods. Schenectady, *Pearson.* Holland Patent, *Miss J. E. Johnson.* Deerfield. Frankfort hill, *J. G. Crocker.* Fish creek. Infrequent. May.

HEPATICA, *Dillenius.* *Hepatica. Liver-leaf.*

TRILOBA, *Chaix.* *Three-lobed-leaved Hepatica.*

Shady woods and ravines. Frequent.

ACUTILOBA, *DC.* *Acute-leaved Hepatica.*

Rich woods. Common. March, April.

THALICTRUM, *Tourn.* *Rue.*

ANEMONOIDES, *Michx.* *Rue Anemone.*

Open woods. Albany, *herb. Bradley.* Schenectady, *Pearson.* Common in a few localities near New-London, *Knieskern.* Uncommon. April – June.

DIOICUM, *L.* *Early Rue. Diœcious Rue.*

Rocky banks and sides of ravines. Frequent. April, May.

CORNUTI, *L.* *Meadow Rue. Discovered by* CORNUTI.

Wet meadows, low grounds and rich woods. Common. June – August.

RANUNCULUS, *L.* *Crowfoots. Buttercups.*

AQUATILIS, *L.*, var. DIVARICATUS, *Gray.* *Water Crowfoot.*

Cold streams. Schenectady, *Pearson.* Abundant in the raceway at Oriskany. Two miles east of Rome, along the railroad, in a spring-brook. Fish creek, Vienna, *Knieskern.* Gorham, *Sartwell.* Infrequent. June – August.

PURSHII, *Richards.* *Floating Buttercup. Determined by* PURSH.

Still water, bogs, in mud along rivulets.

"HOOKER, *Fl. Bor. Am.* *a.* foliis omnibus capillaceo-multifidis, flore majore, caule fistuloso. In stagnant water, throughout the western and northern portions of the State :

*β.* foliis submersis capillaceo-multifidis, natantibus reniformibus palmato-multifidis. In muddy pools near Oneida lake :

γ. repens, foliis inferioribus lineari-multipartitis, superioribus reniformibus palmato-multifidis. In marshes, Watertown, Jefferson county:" *Gray in Rare plants of Northern N.Y.*

Brandy brook, three miles north of Verona, *Knieskern.* Seneca lake, *Sartwell.* Scarce. May – July.

ALISMÆFOLIUS, *Geyer.* *Water-Plantain-leaved Crowfoot. Greater Spearwort.*

Overflowed banks. Western counties. *Knieskern in herb. Vasey* Crooked lake, *Sartwell.* Rare. June – August.

FLAMMULA, *L.* *Flame Crowfoot. Lesser Spearwort.*

Shore of Lake Ontario, *Gray bot.* Lake Erie, *Gray in herb. Ham. Coll.* Rare. June – August.

var. REPTANS, *Gray.* *Creeping Spearwort.*

Sandy shores. At the water-line along the shores of the Eight lakes, north Herkimer county. Shore of Lake Ontario, *Vasey.* Sackett's-harbor; mouth of Oneida creek on the Lake shore; Chenango county, *Knieskern.* Marshy edge of Owasco lake outlet, *I. H. Hall.* Uncommon. July – September.

CYMBALARIA, *Pursh.* *Seaside, Cymbal-leaved Crowfoot.*

Salt-marshes and shores. On the borders of Onondaga lake, about the head at Salina and along the eastern sides. Abundant there: the only habitat given by *Pursh.* A very singular plant, first detected by PURSH near the salt-works of Onondaga, New-York, *Hooker.* Local. June – September.

ABORTIVUS, *L.* *Abortive Buttercup.*

Damp woods, wet places. Common. May, June.

SCELERATUS, *L.* *Noxious Buttercup.*

Ditches, muddy grounds. Mud creek west of Rome. Salina. Infrequent. May – July.

RECURVATUS, *Poiret.* *Hook-fruited Buttercup.*

Shady wet woods. Frequent. May – July.

PENNSYLVANICUS, *L.* *Bristly Buttercup.*

Brook-sides, ditches. Abundant. July – September.

FASCICULARIS, *Muhl.* *Early, Bundle-rooted Buttercup.*

Dry hillsides. Gravelly banks of the Black river below Watertown. Gorham, *Sartwell in herb. Ham. Coll.* Not common. April – June.

REPENS, *L.* *Running Buttercup.*

Overflowed places, along ditches, brooks, rivers. Common. May – August.

CLINTONII, *Beck.* *Dedicated to* G. W. CLINTON.

"Leaves ternate, 3-cleft, hairy, hairs close-pressed; extreme upper leaflets lanceolate: stem entirely prostrate, creeping, zigzag: petals obovate, subretuse: calyx caducous; seed compressed, margined: beak hooked. Flowers large, resembling those of the *repens.* In Oneida county, between Rome and Oriskany, near the Erie canal, patches of ground, several yards in extent, are often covered with this species. The flowers are rarely elevated more than 8 or 10 inches above the ground, though the stem creeps more than a yard from the root. I discovered this plant in the summer of 1824." *Eaton bot.*

"Somewhat hairy; stems creeping and rooting at each of the joints; lower leaves on long petioles, ternate; leaflets toothed and incised, cuneate, terminal one petioled; floral leaves incised or linear; peduncle 1 – 3-flowered; petals rounded; calyx spreading; carpels margined, with a short uncinate style. Banks of the canal, near Rome, Oneida county, N.Y. Much smaller than *R. repens,* in all its parts except the flower, which is of a bright yellow and about as large as that of *R. acris.* Leaves seldom more than 1½ inches in length, and about the same in breadth. Stems distinctly creeping like those of *R. reptans:* flowering ones 6 – 8 inches high. Style short and hooked." *Beck bot.*

The peculiar habit of the plant carpeting the ground in patches, its prostrate flowering stems, the low flowers, beaked fruit, small thick dark green leaves, distinguish the species. Local. May – July.

*BULBOSUS*, L. *Bulbous Buttercup.*

Roadsides, pastures, borders of woods. Schenectady county, abundant on the hillsides south of the Mohawk. Chenango county. Scarce. May – July.

*ACRIS*, L. *Yellow-weed. Acrid Buttercup.*

Way-sides, meadows, everywhere. Common. June – November.

CALTHA, *L.* *Spring Cowslip.*

PALUSTRIS, *L.* *Marsh Marigold.*

Wet meadows and swamps. Common. April – June.

TROLLIUS, *L.* *American Globe-flower.*

LAXUS, *Salisbury.* *Spreading Trollius.*

Frequent in arbor-vitæ swamps on the south range of hills, from Summit lake, Otsego county, through the cedar swamps of south Herkimer county. Bridgewater and along the Oriskany creek, below Clinton. *Gray.* Three miles west of Utica, near the Chenango canal, in abundance.

In exposed places, the American is not inferior in size or beauty to the European Globe-flower. It stands from two to three feet high, has dark green leaves, and bears flowers frequently two and a half inches in diameter, which, in the sun, are deep golden yellow, veined above and tinged beneath with green. A few flowers are sent up in autumn, but are cut down by the first frost; yet perfectly formed flowers and leaves lie near the surface of the ground during winter, enclosed in radical sheaths. In early spring, these appear and expand fully at the height of two or three inches. Later, the plants crowd in hemispherical clusters, which are covered with flowers : at this height, twelve to fifteen inches, these are largest and most beautiful. Others rise, until the last and highest about the middle of May, so that the plant is in bloom during a month or more. April, May.

COPTIS, *Salisbury.* *Goldthread.*

TRIFOLIA, *Salisb.* *Three-leaved Coptis.*

Moist woods under evergreens. Abundant. May, June.

AQUILEGIA, *Tourn.* *Columbine.*

CANADENSIS, *L.* *American Columbine.*

Clefts of rocks, rocky hillsides, and even in sandy soil.
Common. April – October.

ACONITUM, *Tourn.* *Aconite. Monkshood.*

UNCINATUM, *L.* *Hook-helmeted Monkshood.*

In wet places on mountains. Chenango county, *Major J. LeConte, Torrey Cat. and Fl. N.Y.* Local. July, August.

ZANTHORHIZA, *Marshall.* *Shrub Yellow-root.*

APIIFOLIA, *L'Héritier.* *Celery-leaved Zanthorhiza.*

In a deep ravine, Sherburne, eleven miles south of Hamilton, *J.S.Douglass, Torrey Fl. N.Y., Gray bot.* Cultivated by Prof. O. Root, in a ravine on College Hill, Clinton, where it flourishes : remains long in flower.
April – June.

HYDRASTIS, *L.* *Herb Yellow-root.*

CANADENSIS, *L.* *Orange-root.*

Moist woods and wet meadows. Clinton, *Dr. Seth Hastings.* Oneida county and vicinity; Greece, *Bradley.* Yates county, rare, *Sartwell.* Abundant in open woods in Niagara county, *Knieskern.* Rare. April, May.

ACTÆA, *L.* — *Baneberries.*

SPICATA, *L.* — *Spicate Actæa.*

var. RUBRA, *Michaux.* — *Red Baneberry.*

Ravines, borders of thickets. Frequent. May.

var. ALBA, *Michaux.* — *White Baneberry.*

Flats of streams, moist open woods. Abundant. May.

CIMICIFUGA, *L.* — *Snakeroot.*

RACEMOSA, *Elliott.* — *Black-rooted, Racemed Cimicifuga.*

Rich woods, rocky shaded hillsides. Helderberg mountains, *Pearson.* Abundant along the Chenango valley, especially near Binghamton, on dry gravelly hills, *Knieskern.* Rocky banks of Seneca lake, near Starkey, Yates county, *Vasey.* Greece, on the banks of Genesee river, *Bradley.*
Frequent. July, August.

## MAGNOLIACEÆ. — *Magnolias.*

MAGNOLIA, *L.* — *Magnolia.*

ACUMINATA, *L.* — *Cucumber-tree. Pointed-leaved Magnolia.*

Fertile soil. Near Ithaca, *Knieskern, Vasey.* Dundee, Yates county, *Wright in herb. Vasey.* Penn-Yan, *Sartwell.* Open woods in Niagara county, *Knieskern.*
Rare. June.

LIRIODENDRON, *L.* — *Whitewood. Tulip-tree.*

TULIPIFERA, *L.* — *Tulip-bearing Liriodendron.*

Sunny hillsides, rich woods. Schenectady, *Pearson.* Littlefalls, south side of the Mohawk; Whitesborough; Oriskany; frequent about Oneida lake; Onondaga county. About Auburn, *I. H. Hall.* Broome county, *H. Lathrop.*
Infrequent. June.

## ANONACEÆ. — *Custard-apples.*

ASIMINA, *Adanson.* — *North-American Papaw.*

TRILOBA, *Dunal.* — *Three-lobed-calyxed Asimina.*

Rich banks. Greece and Parma, Monroe county, *Bradley.* Shore of Lake Erie, near Barcelona, Chautauqua county, *Knieskern.* Rare. April, May.

## MENISPERMACEÆ. — *Moonseeds.*

MENISPERMUM, *L.* — *Moonseed.*

CANADENSE, *L.* — *Canadian Menispermum.*

Woods, thickets, especially along streams. Abundant in the valley of the Mohawk.
Frequent. June.

## BERBERIDACEÆ. — *Berberids.*

BERBERIS, *L.* — *Barberry.*

*VULGARIS*, L. — *Common Berberis.*

Naturalized sparingly by roads, hedges, borders of woods. New-Hartford.
May.

CAULOPHYLLUM, *Michaux.* — *Blue Cohosh. Pappoose-root.*

THALICTROIDES, *Michx.* — *Rue-like Caulophyllum.*

Woods, fences, ravine bottoms. Abundant. April, May.

JEFFERSONIA, *Barton.* — *Jeffersonia.*

DIPHYLLA, *Persoon.* — *Twin-leaf.*

Rich woods, limestone rocks. About three miles west of Dexter, Jefferson county, *Vasey.* Near Geneva, *Sartwell in herb. Ham. Coll.* Rare. April.

PODOPHYLLUM, *L.* — *Mandrake. May-apple.*

PELTATUM, *L.* — *Peltate Podophyllum.*

Fences, meadows, borders of woods, flats of streams. Abundant. May.

## NELUMBIACEÆ. — *Sacred Bean.*

NELUMBIUM, *Jussieu.* — *Nelumbo. Lotus.*

LUTEUM, *Willd.* — *Yellow Nelumbium.*

Lake Ontario, Big Sodus bay, Wayne county, near the road just north of the bridge, *Sartwell.* Local. June, July.

## CABOMBACEÆ. — *Water-shields.*

BRASENIA, *Schreber.* — *Water-target.*

PELTATA, *Pursh.* — *Peltate Brasenia.*

Still water, ponds, lakes. Abundant in the lakes of the north woods. Stagnant ponds in Verona, *Knieskern.* Mill-pond two miles northwest of New-London. Lebanon, Madison county, *Bradley.* Schuyler's lake, Otsego county, *G. W. Clinton.* Crooked lake, *Sartwell.* Rare. June – September.

## NYMPHÆACEÆ. — *Water-lilies.*

NYMPHÆA, *Tourn.* — *Water-nymph.*

ODORATA, *Aiton.* — *Fragrant Water-lily.*

Slow streams, ponds, borders of lakes; sometimes in mud, with erect leaves and flowers. Common in the lakes of the north woods; Oneida lake; Oneida creek; Cedar lake and Hidden lake, south Herkimer county. Otsego county, *H. Lathrop.*

The variety with rose-colored flowers, in Raquette lake, north Hamilton county.

The variety with inodorous flowers, in an inlet of Lake Ontario, a mile or two north of Oswego : plant very large in all its parts; flowers, six or seven inches in diameter; leaves, eight to ten. Not common. June – September.

NUPHAR, *Smith.* — *Yellow Pond-lily. Spatterdock.*

ADVENA, *Aiton.* — *Stranger (to the old world) Nuphar.*

Ponds, pools, ditches. Very common. May – August.

KALMIANA, *Pursh.* — *Small Yellow Nuphar. Discovered by* KALM.

Tranquil water. Sanders's lake, Glenville, *Pearson.* Mouth of Oneida creek, *Knieskern.* Abundant in Black brook, near Oneida lake. Flint creek, Yates county, *Sartwell.* Rare. May – July.

## SARRACENIACEÆ. — *Water-pitchers.*

SARRACENIA, *Tourn.* — *Huntsman's-cup. Pitcher-plant.*

PURPUREA, *L.* — *Purple-flowered Sarracenia.*

Swamps, especially in sphagnum. Abundant in the north woods. Schenectady, on the Pine plains, *Pearson.* Paris hill; Graefenberg hill. Oriskany swamp, *Vasey.* About Oneida lake. Frequent. June, July.

HETEROPHYLLA, *Eaton.* — *Varying-leaved Sarracenia.*

Flowers greenish yellow; leaves variable, green, veinless. Sphagnous swamp. Junius, Seneca county, *Sartwell.* Local. June.

## PAPAVERACEÆ. *Poppies.*

CHELIDONIUM, *L.* *Celandine.*

*MAJUS*, L. *Great Chelidonium.*

About houses, walls, waysides. Common. May – September.

SANGUINARIA, *Dillenius.* *Bloodroot.*

CANADENSIS, *L.* *Canadian Sanguinaria.*

Along fences, open woods, sides of ravines. Abundant. May.

## FUMARIACEÆ. *Fumitories.*

ADLUMIA, *Rafinesque.* *Climbing Fumitory.*

CIRRHOSA, *Raf.* *Alleghany-vine. Tendrilled Adlumia.*

Moist shady places in rich woods. Helderberg mountains, *Pearson*. About Otsego lake, *Miss S. Cooper: H. Lathrop: B.D.Gilbert*. Junius, *Sartwell in herb. Ham. Coll.* Greece, Parma, *Bradley*. Rare. June – September.

DICENTRA, *Borkhausen.* *Dicentras.*

CUCULLARIA, *DC.* *Dutchman's Breeches. Hooded-spurred Dicentra.*

Moist rich soil. Common. April, May.

CANADENSIS, *DC.* *Squirrel-corn.*

Shady woods, ravine-sides. Abundant. March – May.

EXIMIA, *DC.* *Purple, Choice Dicentra.*

Rocky woods. Wayne county, not far from Sodus bay, *Sartwell*. Local. May – August.

CORYDALIS, *Vent.* *Corydalis.*

AUREA, *Willd.* *Golden Corydalis.*

Among shaded rocks. Along the north side of Black river, between Watertown and Brownville. Rich soil near Oriskany, *Knieskern*. Rare. May – July.

GLAUCA, *Pursh.* *Glaucous Corydalis.*

Rocks. Littlefalls, south side of the Mohawk; Bald-rock, north Herkimer county. Recently burnt-over ground near Oriskany, *Knieskern*. Frequent. May – August.

FUMARIA, *L.* *Garden Fumitory.*

*OFFICINALIS*, L. *Officinal Fumaria.*

A weed in gardens and cultivated grounds. Frequent. Flowers throughout the season.

## CRUCIFERÆ. *Crucifers.*

NASTURTIUM, *R. Brown.* *Cresses. Nasturtia.*

*OFFICINALE*, R. Br. *European, Officinal Watercress.*

Cold streams. Springy hillside at the head of the raceway, Oriskany. Jacob's brook, Yates county, *Sartwell*. Scarce. May – July.

PALUSTRE, *DC.* *Marsh Cress.*

Overflowed places, ditches, muddy shores. Common. The typical form, Yates county, *Sartwell*. June – August.

HISPIDUM, *DC.* *Hispid Cress.*

Inundated banks of rivers. Along the Mohawk. Penn-Yan. *Sartwell*. Infrequent. June – August.

LACUSTRE, *Gray.* *Lake Cress.*

Muddy banks, streams, lakes. In the St.Lawrence river near Ogdensburgh, *Crawe. Gray in Rare plants of Northern N.Y.* Jefferson county, *Crawe in herb. Ham. Coll.* Oneida lake, where it is very abundant in water two to five feet deep, *Gray.* Along the shore of Oneida creek near its mouth, growing erect twelve to eighteen inches. Rare. June – August.

*ARMORACIA*, Fries. *Horseradish. Water-side Nasturtium.*

Waste places, walls, along water-courses. Frequent on the banks of the Mohawk. Extensively naturalized. May – July.

DENTARIA, *L.* *Toothworts. Pepper-roots.*

DIPHYLLA, *L.* *Two-leaved Dentaria.*

Moist woods. Common. May.

MAXIMA, *Nuttall.* *Many-leaved, Great Dentaria.*

Shady ravines. Western part of the State of New-York, *Nuttall.* Watertown, N.Y., *Crawe, Gray bot.* Abundant in the ravine of Deerfield creek, north of Utica, in deep moist soil. Among the headwaters of this creek on the hills, along wooded rivulets, the flowers are purple and racemes elongated. Leaves three, alternate, distant; root deeply interrupted. Rarely from the axil of the highest leaf a smaller secondary stem springs, having two leaves and a raceme. Rich bottoms of Starch-factory creek, east of Utica: the true form. On the west side, along the border of the gulf, in moist places, a form occurs between this species and *D. diphylla;* having denticulate rootstalks, three alternate remote leaves and white flowers. Both forms usually send up a radical leaf, beside the stem. Rare. Early in May.

LACINIATA, *Muhl.* *Necklace Pepper-root. Cut-leaved Dentaria.*

Rich shady woods. Frequent. April.

HETEROPHYLLA, *Nuttall.* *Variable-leaved Dentaria.*

Deep woods. Near Watertown, Jefferson county, *Knieskern.* Along bottoms of gulf-sides in Deerfield creek, and woodland ravines on the hills. Leaves two, sometimes four, alternate, remote, deeply divided into narrow lobes, slightly toothed. Root moniliform, frailly connected. Rare. May.

CARDAMINE, *L.* *Spring Cresses.*

RHOMBOIDEA, *DC.* *Rhomblike-leaved Cardamine.*

Wet meadows and miry places in woods. Abundant. May, June.

var. PURPUREA, *Torr.* *Purple-flowered Cardamine.*

Low grounds along shaded streams. Frequent. April, May.

PRATENSIS, *L.* *Cuckoo-flower. Meadow Cardamine.*

Swamps in the western part of the State, particularly in Oneida county, *Torr. Fl. N.Y.* Wet meadows and bogs on the flats of the Mohawk. Oriskany swamp, *Vasey.* Plenty on Hidden lake, Litchfield, Herkimer county. Seneca and Gorham, Ontario county, *Sartwell.* Rare. April – June.

HIRSUTA, *L.* *Bitter Cress. Hairy Cardamine.*

Rocks, hillsides, springs, ditches brooks, swamps, muddy places in woods. Very common. Throughout the season.

ARABIS, *L.* *Wall-cresses. Rock-cresses.*

LYRATA, *L.* *Lyrate-root-leaved Rock-cress.*

Clefts of rocks. Abundant on the cliffs at Littlefalls. Trenton falls, *Knieskern.* Frequent. April – October.

DENTATA, *Torr. & Gr.* *Dentate-leaved Rock-cress.*

Banks of streams. Near Utica, *Gray, Torr. Fl. N.Y.* Rare. May.

HIRSUTA, *Scopoli.* *Hairy Rock-cress.*

Rocky banks. Helderberg mountains, *Pearson.* Trenton falls, *Knieskern.* Watertown, N.Y., *Gray in herb. Ham. Coll.* Along the Black river below Watertown. Bluff point, Yates county, *Sartwell.* Rare. May, June.

LÆVIGATA, *DC.* *Smooth Rock-cress.*

Shaded rocks, thickets along water-courses. Schenectady, *Pearson.* Cliffs and steeps at Spraker's, Montgomery county; Little falls of the Mohawk; Trenton falls; banks of Fish creek, near the crossing of the Oswego county turnpike. Vienna, *Knieskern.* Frequent. May – July.

CANADENSIS, *L.* *Sickle-pod.*

Rocks, wooded hillsides. Rocks along the College brook, Schenectady, *Pearson.* Southern tier of counties from Binghamton westward, on dry gravelly hillsides, rare, *Knieskern.* Yates county, *Sartwell.* Scarce. June – August.

TURRITIS, *Dillenius.* *Tower Mustard.*

GLABRA, *L.* *Smooth Tower-mustard.*

Rocky banks, woods, fields. Watertown, N.Y., *Torrey & Gray; Knieskern in herb. Ham. Coll.* Along the north bank of Black river between Watertown and Brownville, among rocks. Dexter, N.Y., *Wood in herb. Ham. Coll.* Scarce. May, June.

STRICTA, *Graham.* *Straight-podded Tower-mustard.*

Wooded banks of streams. Dexter, N.Y., *Wood in herb. Ham. Coll.* Watertown, Jefferson county, where it was first found by *Crawe.* Lebanon, Chenango county, *J. S. Douglass, Torrey Fl. N. Y.* Along Fish creek near Humaston's, Rome, *Vasey.* Rare. May.

BARBAREA, *R. Brown.* *Winter Cress.*

VULGARIS, *R. Br.* *Yellow Rocket. Common Winter-cress.*

Wet grounds, roadsides, ditches, woods. A common weed. All the season.

ERYSIMUM, *L.* *Treacle Mustard.*

CHEIRANTHOIDES, *L.* *Wallflower-like Mustard.*

Moist ground, along streams, clefts of rocks. Sparingly in Oriskany along the creek, *Vasey.* Mohawk flats. Rocks at Chittenango falls. Penn-Yan, *Sartwell.* Abundant. June – September.

SISYMBRIUM, *L.* *Hedge Mustard.*

*OFFICINALE*, Scopoli. *Officinal Hedge-mustard.*

Waste places. Very common. The season throughout.

SINAPIS, *Tourn.* *True Mustard.*

*ARVENSIS*, L. *Charlock. Wild Mustard.*

Waste places, roadsides, cultivated fields. Common. June – August.

*NIGRA*, L. *Black Mustard.*

About gardens and cultivated grounds. Common. May – August.

DRABA, *L.* *Whitlow-grass.*

ARABISANS, *Michx.* *Arabis-like Draba.*

Ledges, rocks, river-banks. Borders of small lakes in the northern part of the State, *Torrey & Gray.* St. Lawrence county, *Gray in herb. Ham. Coll.* Crevices of rocks at the mouth of Black river, *Vasey.* Sackett's-harbor, *Knieskern in herb. Ham. Coll.* Rare. May – June.

VERNA, *L.* *Whitlow-grass. Early Draba.*

Rocks, hillsides, old fields. Received from Jefferson county, *Sartwell.* Hackney falls, near Auburn, *I. H. Hall.* Rare. March – May.

CAMELINA, *Crantz.* — *False Flax. Gold of Pleasure.*

*SATIVA*, Crantz. — *Cultivated Camelina.*

Along railroads. In flax, *Knieskern.* Penn-Yan, frequent, *Sartwell.* May – July.

LEPIDIUM, *L.* — *Peppergrass.*

VIRGINICUM, *L.* — *Virginian Pepperwort.*

Streets, railroads. Common. June – August.

CAPSELLA, *Vent.*

*BURSA-PASTORIS*, Mœnch. — *Shepherd's-purse.*

Everywhere common. April – October.

THLASPI, *Dillenius.*

*ARVENSE*, L. — *Pennycress.*

Stony fields. State of New-York; rare. *v. v.*, *Pursh.* Naturalized in St. Lawrence county. June, July.

RAPHANUS, *L.* — *White Charlock. Wild Radish.*

*RAPHANISTRUM*, D. — *Jointed-podded Raphanus.*

Waste places on the banks of the Mohawk. Scarce. June, July.

## CAPPARIDACEÆ. — *Capers.*

POLANISIA, *Rafinesque.* — *Polanisia.*

GRAVEOLENS, *Raf.* — *Heavy-scented Polanisia.*

River-banks, shores of lakes. Schenectady, *Pearson.* Borders of Oneida lake near Constantia, *Vasey.* Cayuga bridge, *Bradley.* Beach of Crooked lake, *Sartwell.* Scarce. June – August.

## RESEDACEÆ. — *Mignonetts.*

RESEDA, *L.* — *Mignonette.*

*LUTEOLA*, L. — *Dyer's-weed. Yellow Reseda.*

Roadsides in Western New-York, *Gray bot.* Fairfield? Herkimer county, *in herb. Hadley.* Rare. June – August.

## VIOLACEÆ. — *Violets.*

SOLEA, *Ging.* — *Green Violet.*

CONCOLOR, *Ging.* — *Uniform-colored Solea.*

Shady woods. Near a small pond one mile east of Utica, in company with *Fedia fagopyrum;* near Vernon, *J.S.Douglass, Knieskern.* Near Penn-Yan, *Sartwell.* Rare. May.

VIOLA, *L.* — *Violets.*

ROTUNDIFOLIA, *Michaux.* — *Round-leaved Violet.*

Rich woods, sides of ravines, shade of evergreens. Abundant. March – May.

LANCEOLATA, *L.* — *Lance-leaved Violet.*

Marshes, shores of streams. Albany, *Beck bot.* Schenectady, half a mile east of Coon Chisholm's, *Pearson.* Clinton, *Bradley.* Rare. May, June.

PRIMULÆFOLIA, *L.* — *Primrose-leaved Violet.*

Wet meadows. Infrequent. April – June.

BLANDA, *Willd.* — *Pretty Violet.*

Wet woods, low grounds, along rivulets. Common. April – June.

SELKIRKII, *Goldie.* SELKIRK'S *Violet.*

Clayey hillsides, open woodlands, pastures, about stumps and old logs, under young evergreens, and in deep mossy ravines. Abundant.

Oneida county appears to be one of the favorite abodes of this rare species. It is as beautiful as *V. blanda*, and more interesting. In color, it is usually deep blue, sometimes purple. In form, the flowers are like those of *V. pedata*, with a long spur, and the leaves like those of *V. blanda* crenulated. It prefers the north side of hills; and sometimes occurs exceedingly minute, an inch high, leaves half as broad and smaller. The flowers are almost ephemeral; they can be found only during four or five days in April.

CUCULLATA, *Aiton.* *Hooded-leaved Violet.*

Waysides, wet meadows and woods. Common.

Flowers with stripes of purple and white, along the rocky steep at Spraker's, Montgomery county.

Flowers pure white, up the ravine of Deerfield creek, and along brooks on the Litchfield hills. May – July.

var. PALMATA, *Gray.* *Hand-leaved Violet.*

Swamps. Along Tan-house creek, Schenectady, *Pearson.* Near Oriskany, *Knieskern.* Crooked lake outlet, *Sartwell.* Rare. May – June.

SAGITTATA, *Aiton.* *Arrow-leaved Violet.*

Dry hillsides, copses, pastures. Plains of Rome. Frequent. April, May.

PEDATA, *L.* *Foot-leaved Violet.*

Gravelly woods, sandy plains. On the Pine plains near the Gunsaul road, Schenectady, *Pearson.* Rare. May – September.

ROSTRATA, *Pursh.* *Beaked-spurred Violet.*

Moist woods, rich flats along streams. Abundant. May, June.

MUHLENBERGII, *Torrey.* *Determined by* MUHLENBERG.

Ravines and swamps. Common. April – June.

STRIATA, *Aiton.* *Veined-flowered Violet.*

Rich open woods. Banks of the Mohawk opposite Whitesboro Seminary. Oriskany, *Vasey.* Clark's mills. Clinton; Franklin, *Miss L. W. Shattuck.* Rare. April – September.

CANADENSIS, *L.* *Canadian Violet.*

Groves and moist shady hillsides. Abundant. Completely covering the ground in many woods. Flowers throughout the season.

PUBESCENS, *Aiton.* *Downy Yellow Violet.*

Open woods, ravines, pastures. Common. April – June.

var. ERIOCARPA, *Nuttall.* *Woolly-fruited Violet.*

Dry woodlands. Frequent. May.

var. SCABRIUSCULA, *Torr. & Gr.* *Rough-leaved Violet.*

Copses. Albany, *Beck bot.* Oneida county, *Knieskern.* Infrequent. May, June.

## CISTACEÆ. *Rock-roses.*

### HELIANTHEMUM, *Tourn.* *Sun-roses.*

CANADENSE, *Michx.* *Frost-plant.*

Rocks, sand. Everywhere in Schenectady, *Pearson.* Dry sandy plains near Oneida lake, *Knieskern.* Common on our sandy knolls, *Sartwell.* Infrequent. June – August.

LECHEA, *L.* *Lecheas.*

MAJOR, *Michaux.* *Greater Lechea.*

Sterile soil. Pine plains, Schenectady, *Pearson.* Yates county; Avon, *Sartwell in herb. Ham. Coll.* Rare. July.

MINOR, *Lamarck.* *Pinweed. Lesser Lechea.*

Dry fields and pastures. Common. June – August.

## DROSERACEÆ. *Sundews.*

DROSERA, *L.* *Sundews.*

ROTUNDIFOLIA, *L.* *Round-leaved Sundew.*

Around springs, wet bogs, sphagnum swamps. Frequent. July, August.

LONGIFOLIA, *L.* *Spatulate-leaved Sundew.*

Sphagnous bogs. Borders of cold ponds near the chain of Eight lakes, north Herkimer county; doubtless abundant throughout the north woods. Near Dexter, Jefferson county, *Vasey.* Cedar swamp, Gorham, *Sartwell.* Rare. June, July.

## PARNASSIACEÆ. *Parnassias.*

PARNASSIA, *Tourn.* *Grass of Parnassus.*

CAROLINIANA, *Michx.* *Carolinian Parnassia.*

Springy banks and along streams. In the spray from the High falls, Trenton falls; below the falls, near the lower dam, abundant. Wet cliffs on the east branch of Fish creek, at Fall brook, abundant there; along the banks of the creek below Taberg station. Infrequent. August, September.

## HYPERICACEÆ. *St.John's-worts.*

HYPERICUM, *L.* *Hyperica.*

PYRAMIDATUM, *Aiton.* *Pyramidal-flowered Hypericum.*

River bottoms. Frequent in the valley of the Mohawk. Schenectady, *Pearson.* Littlefalls, *Vasey.* Two miles above Utica, on the north bank of the river. Near Flint-hill, between the canal and the Mohawk; along Fish creek near Taberg, *Knieskern.* Rare. July, August.

*PERFORATUM*, L. *Perforated Hypericum.*

Roadsides, fields, pastures. Everywhere common. June – September.

CORYMBOSUM, *Muhl.* *Corymbed Hypericum.*

Borders of woods, swamps. Frequent. June – August.

ELLIPTICUM, *Hooker.* *Elliptical-leaved Hypericum.*

Low grounds, wet shady banks of streams and lakes in the northern part of Herkimer county. Infrequent. July, August.

MUTILUM, *L.* *Diminutive-flowered Hypericum.*

Wet ground. Common. July – September.

CANADENSE, *L.* *Canadian Hypericum.*

Along streams, swamps. Trenton falls. North woods. Uncommon. June – September.

ELODEA, *Pursh.* *Marsh St.John's-wort.*

VIRGINICA, *Nuttall.* *Purple Elodea.*

Along brooks, swamps, sphagnum. Common. July – September.

## ELATINACEÆ. *Water-worts.*

ELATINE, *L.* *Water-wort.*

AMERICANA, *Arnott.* *American Water-wort.*

Muddy banks of streams. Albany, *Beck.* Rare. July – September.

## CARYOPHYLLACEÆ. *Pinks.*

SAPONARIA, *L.* *Soap-wort.*

*OFFICINALIS*, L. *Officinal Saponaria.*

Dooryards, roadsides, railroads. Common. July – October.

SILENE, *L.* *Catchfly. Campion.*

STELLATA, *Aiton.* *Starry Campion. Stellate-leaved Silene.*

Wooded hillsides. Near Sleepy-hollow, Tarrytown; and abundantly on the mountain-side above Nyaek, *I. H. Hall.* Near Oriskany, *Knieskern.* Frequent on the banks of Crooked lake, *Sartwell.* Rare. July – September.

*INFLATA*, Smith. *Bladder Campion. Inflated-calyxed Silene.*

Dry gravelly soil. Verona, not common, *Knieskern.* Rare. July, August.

PENNSYLVANICA, *Michx.* *Wild Pink.*

Rocky soil. Cliffs near Tarrytown, *I. H. Hall.* Amenia, Dutchess county, *Dow.* Schenectady, *Pearson.* Rare. May – July.

VIRGINICA, *L.* *Fire Pink.*

Open woods. Yates county, *Sartwell.* Rare. June, July.

*ARMERIA*, L. *Sweet-william Catchfly.*

Escapes occasionally, sometimes troublesome, *D. S. Heffron.* July – September.

ANTIRRHINA, *L.* *Snapdragon Catchfly.*

Roadsides, barren soil. Banks of Black river. Frequent. June – September.

*NOCTIFLORA*, L. *Night-flowering Catchfly.*

Borders of woods, fences, cultivated fields. Common. June – September.

LYCHNIS, *Tourn.* *Diœcious Pink.*

*VESPERTINA*, Sibthorpe. *White Campion. Evening-opening Lychnis.*

Hedges, waste places. Elmira, Chemung county, *Gray add. bot.* Rare. June – September.

AGROSTEMMA, *L.* *Cockle. Crown of the Field.*

*GITHAGO*, L. *Black-seeded Agrostemma.*

Grain-fields and their borders. Common. June, July.

ALSINE, *Wahl.* *Grove Sandwort.*

MICHAUXII, *Fenzl.* *Discovered by* MICHAUX.

Dry rocky hills and banks. Thousand Islands of the St. Lawrence. Abundant along the Black river, from Lewis county to the lake. On sandy knolls two miles above Utica, on the north side of the Mohawk, *Miss J. E. Johnson.* Rare. May – July.

ARENARIA, *L.* *Sandwort.*

*SERPYLLIFOLIA*, L. *Thyme-leaved Sandwort.*

Rocky banks, barren soil, ledges, sandy plains. Abundant. May – August.

MŒHRINGIA, *L.* *Mœhringia.*

LATERIFLORA, *L.* *Side-flowering Mœhringia.*

Along rivulets, shady wet woods. Schenectady, *Pearson.* Near Sackett's-harbor, not far from the lake shore; sandy woods near Oneida lake, *Knieskern.* Along the Black river and on the banks of the Mohawk, a very small form occurs in exposed stations. Infrequent. May, June.

STELLARIA, *L.* *Starworts.*

*MEDIA*, Smith. *Intermediate-leaved Stellaria.*

Waste places. A common weed. April – November.

LONGIFOLIA, *Muhl.* *Long-leaved Stellaria.*

Brook-sides and meadows. Common. June – August.

LONGIPES, *Goldie.* *Long-pedicelled Stellaria.*

Barren rocky ground near Dexter, Jefferson county, *Vasey.* Dexter, N.Y., *Wood in herb. Ham. Coll.* Rare. June, July.

BOREALIS, *Bigelow.* *Northern Stellaria.*

Wet meadows, grassy swamps. Oriskany; Whitestown; Rome. Infrequent. June – August.

CERASTIUM, *L.* *Mouse-ear Chickweed.*

*VULGATUM*, L. *Common Chickweed.*

Pastures, stony ground. May – October.

*VISCOSUM*, L. *Clammy Chickweed.*

Meadows, fields, walls. April – July.

NUTANS, *Rafinesque.* *Nodding-fruited Chickweed.*

Cold springs and rivulets. Below Watertown, along the Black river. Rare. May – July.

ARVENSE, *L.* *Cornfield Chickweed.*

Rocky ground, cultivated fields. Helderberg mountains, *Pearson.* Infrequent. May – August.

SAGINA, *L.* *Pearlwort.*

PROCUMBENS, *L.* *Procumbent Sagina.*

Wet sandy banks and shores. Rare. June – August.

SPERGULA, *L.* *Spurrey.*

*ARVENSIS*, L. *Grain-field Spergula.*

Along railroads, roadsides, fields. Among flax, *Knieskern.* Frequent. June – September.

ANYCHIA, *Michx.* *Forked Chickweed.*

DICHOTOMA, *Michx.* *Dichotomous-stemmed Anychia.*

Dry hillsides. Schenectady, *Pearson.* Pine plains of Rome, *Vasey.* Frequent in Yates county, *Sartwell.* Uncommon. June – August.

SCLERANTHUS, *L.* *Knawel.*

*ANNUUS*, L. *Annual Scleranthus.*

Damp sandy or gravelly places. Pine plains of Schenectady, *Pearson.* Waste places in Oneida county, *Knieskern.* Scarce. May – August.

MOLLUGO, *L.* *Indian Chickweed.*

VERTICILLATA, *L.* *Carpet-weed. Whorled-leaved Mollugo.*

Roadsides, shores. Sandy shore of Onelda lake. Rare. June – September.

## PORTULACACEÆ. *Purslanes.*

PORTULACA, *Tourn.* *Purslane.*

*OLERACEA*, L. *Garden Portulaca.*

Waste places; a weed in cultivated grounds. June – August.

CLAYTONIA, *L.* *Spring-beauties.*

VIRGINICA, *L.* *Linear-leaved Clatonia.*

Rich river bottoms. Along the Mohawk below Utica; abundant opposite Whitesboro. Fish creek, *Knieskern.* Rare. May.

CAROLINIANA, *Michx.* *Broad-leaved Clatonia.*

Everywhere in woods, groves, copses, swamps. Common. March, April.

## MALVACEÆ. *Mallows.*

MALVA, *L.* *True Mallows.*

*ROTUNDIFOLIA*, L. *Round-leaved Mallow.*

Dooryards, streets, waste places. Common. May – September.

*SYLVESTRIS*, L. *Woodland Mallow.*

Borders of woods and roadsides remote from gardens. Everywhere scattered and abundant. May – September.

*MOSCHATA*, L. *Musk-scented Mallow.*

Way-sides; well established as the former, and often with it. Abundant in many places. May – August.

ABUTILON, *Tourn.* *Velvet-leaf. Indian Mallow.*

*AVICENNÆ*, Gærtner. *Dedicated to* AVICENNA.

Gardens, roadsides, waste-places. Frequent. July – September.

HIBISCUS, *L.* *Mallow-rose.*

MOSCHEUTOS, *L.* *Musk Hibiscus.*

Marshes, both of salt and of fresh water. Plentifully in the marshes around the Salt lake, Onondaga, New-York, *Pursh.* Abundant in the marshes along the outlet of Cayuga lake. Around Irondequoit bay, Monroe county, *C. M. Booth.* Rare. July – October.

## TILIACEÆ. *Lindens.*

TILIA, *L.* *Linden-trees.*

AMERICANA, *L.* *Basswood.*

Rich woods. Common. June, July.

## LINACEÆ. *Flaxes.*

LINUM, *L.* *Flax.*

VIRGINIANUM, *L.* *Wild Yellow Flax.*

Dry hills. Tarrytown in open rocky woods, *I. H. Hall.* Schenectady county, *E. W. Paige.* Yates county, *Sartwell.* Roadsides in the southern tier of counties, *Knieskern.* Rare. June – August.

*USITATISSIMUM*, L. *Cultivated, Useful Flax.*

Borders of fields, waysides. Abundant all along on the Central railroad. June – August.

## OXALIDACEÆ. *Sorrels.*

OXALIS, *L.* *Wood-sorrel.*

ACETOSELLA, *L.* *American Wood-sorrel.*

Moist rich woods. Most abundant on the hills. Common. May – August.

VIOLACEA, *L.* *Violet-colored-flowered Wood-sorrel.*

Shaded rocks and rich woods. Charlton near Schenectady, *Pearson*. Vicinity of Oriskany, *Vasey*. Rare. April – August.

STRICTA, *L.* *Upright Yellow Sorrel.*

Along roads, walls, streams. Common. May – September.

## GERANIACEÆ. *Gerania.*

GERANIUM, *L.* *Wild Geraniums.*

MACULATUM, *L.* *Crane's-bill. Spotted-leaved Geranium.*

Moist woods, meadows. Abundant. May – July.

CAROLINIANUM, *L.* *Field Geranium.*

Rocky barren soil, waste grounds. Schenectady, *Pearson*. Littlefalls, south side of the Mohawk, on the rocks. About Dexter factories, Oriskany, *Knieskern*. High dry banks along the Black river below Watertown. Frequent in Yates county, *Sartwell*. Uncommon. May – July.

*PUSILLUM*, L. *Small-flowered Geranium.*

Gravelly or sandy soil. Waste-places in Clinton. Roadsides a few miles east of Constantia, north shore of Oneida lake, *Vasey*. Gorham, *Sartwell*. Infrequent. May – September.

ROBERTIANUM, *L.* *Herb Robert.*

Shady woods, rocky sides of ravines. Common. May – November.

ERODIUM, *L'Héritier.* *Heron's-bill.*

*CICUTARIUM*, L'Héritier. *Water Hemlock-leaved Erodium.*

Naturalized about Dexter factory, Oriskany, *Knieskern*. On the island opposite Constantia; along the north shore of Oneida lake near Constantia, *Vasey*. Rare. June – August.

## BALSAMINACEÆ. *Balsams.*

IMPATIENS, *L.* *Touch-me-not. Jewel-weeds.*

PALLIDA, *Nuttall.* *Pale-flowered Impatiens.*

Rich moist woods and ravines; forming thickets. Abundant. June – Sept.

FULVA, *Nuttall.* *Fulvous-flowered Impatiens.*

Wet shady woods, along streams. Common. June – August.

## LIMNANTHACEÆ. *Limnanths.*

FLŒRKEA, *Willd.* *False Mermaid.*

PROSERPINACOIDES, *Willd.* *Mermaid-weed-like Flœrkea.*

Low river-banks. Abundant in wet woods on the flats of the Mohawk, three miles below Utica. Banks of Unadilla river, *Gray*. Auburn, this plant grows in the wet part of the wood, where my Carex grows, *J. Carey in herb. Ham. Coll.* Rare. May, June.

## RUTACEÆ. *Rues.*

ZANTHOXYLUM, *Golden.* *Prickly Ash.*

AMERICANUM, *Miller.* *Toothache Tree.*

Water-courses, shores, low rich woodlands. Mohawk river. Along Wood creek, and in neighboring swampy woods. Black river. Abundant about the lakes of the north woods. Otsego county, *H. Lathrop.*

Frequent. March, April.

## ANACARDIACEÆ. *Cashews.*

RHUS, *L.* *Sumachs.*

TYPHINA, *L.* *Staghorn, Fever Sumach.*

Rocky woods, copses, hillsides. Frequent. June.

GLABRA, *L.* *Scarlet, Smooth Sumach.*

Barren grounds, rocks. Common. July.

COPALLINA, *L.* *Mountain, Copal-like Sumach.*

Rocks and dry localities. Otsego county, *B. D. Gilbert.* Pine plains and near Oneida lake, *Knieskern.* Infrequent. July, August.

VENENATA, *DC.* *Poison Sumach.*

Swamps, open woods, water-sides. Rotterdam, *Pearson.* Otsego county, *H. Lathrop.* Oriskany swamp, *Knieskern.* Yates county, *Sartwell.* Rare. June.

RADICANS, *L.* *Climbing Poison Ivy.*

Ascending trees, covering walls, fences. Common. June.

TOXICODENDRON, *L.* *Tree-like Poison Ivy.*

Borders of woods, river-banks, waysides. Common. July.

AROMATICA, *Aiton.* *Fragrant Sumach.*

Barren rocky grounds. Banks of the Black river below Watertown. In the southern tier of counties, from Binghamton westward, *Knieskern.* Abundant on the banks of Crooked lake, *Sartwell.* Infrequent. April, May.

## VITACEÆ. *Vines.*

VITIS, *L.* *Grape-vines.*

LABRUSCA, *L.* *Wild Grape.*

Woods, thickets, banks of streams. Frequent. May.

ÆSTIVALIS, *Michaux.* *Summer Grape.*

Woods, high on trees, river banks. Frequent. May.

CORDIFOLIA, *Mich.* *Frost, Heart-leaved Grape.*

Fence-thickets, borders of woods, brows of ravines, water-courses. Common. Juee.

AMPELOPSIS, *Michaux.* *Ivy. False Woodbine.*

QUINQUEFOLIA, *Michx.* *Five-leaved Ampelopsis.*

Moist woods, copses, walls. Common. June. July.

## RHAMNACEÆ. *Buckthorns.*

RHAMNUS, *Tourn.* *Common Buckthorn.*

*CATHARTICUS*, L. *Purging Buckthorn.*

Highlands of the Hudson, *Barratt in herb. Ham. Coll.* Common in hedges. May, June.

ALNIFOLIUS, *L'Héritier.* *Adder-leaved Buckthorn.*

Cold swamps. Summit lake, Otsego county. Abundant in the high marshes of Litchfield, State swamp and on Hidden lake. Formerly in the Oriskany swamp. *Vasey.* Frequent in the marshes of the northern part of the county, and the north woods. Yates county, *Sartwell.* Bergen swamp, northwestern Genesee county. Uncommon. June.

CEANOTHUS, *L.* *Red-root.*

AMERICANUS, *L.* *New-Jersey Tea. American Ceanothus.*

Dry open woods. Schenectady. Alexandria bay. Western counties, *Knieskern.* Frequent. July – August.

OVALIS, *Bigelow.* *Long-leaved Ceanothus.*

Rocky shores. Clefts of rocks on the banks of Black river, opposite Watertown, Jefferson county; along the river between Watertown and Dexter. Rare. May, June.

## CELASTRACEÆ. *Staff-trees.*

CELASTRUS, *L.* *Bittersweet. Wax-work.*

SCANDENS, *L.* *Climbing Celastrus.*

Woodlands, thickets, streams. Common. June.

EUONYMUS, *Tourn.* *Waahoo. Burning-bush.*

ATROPURPUREUS, *Jacq.* *Dark-purple-flowered Euonymus.*

Thickets. Oneida county, *H. Lathrop.* Greece, Monroe county, *Bradley.* Rare. June.

AMERICANUS, *L.* *Strawberry-bush. American Euonymus.*

Woods, streams. Western part of the State, *Torrey Fl.* Western counties, *Knieskern.* Genesee river, *Sartwell in herb. Ham. Coll.* Rare. June.

## SAPINDACEÆ. *Soapberries.*

STAPHYLEA, *L.* *Bladder-pod.*

TRIFOLIA, *L.* *Three-leaved Staphylea.*

Copses, thickets, river-banks. Common along the Mohawk. Frequent. May, June.

ACER, *Tourn.* *Maples.*

PENNSYLVANICUM, *L.* *Striped Maple.*

Moist woodlands, ravines. Abundant. May.

SPICATUM, *Lamarck.* *Spiked-flowered Maple.*

Thickets, steep rocky banks. Abundant. June.

SACCHARINUM, *L.* *Hard, Sugar Maple.*

Woods. Common. May.

var. NIGRUM, *Gray.* *Black Maple.*

Hilly woods. Occasional. Often as a shade tree. May.

DASYCARPUM, *Ehrhart.* *White, Silver Maple.*

Along streams. Banks of the Mohawk river throughout its length. The most common shade tree in the streets of cities, villages. Infrequent. April.

RUBRUM, *L.* *Red Maple.*

Swamps. Common. March, April.

## POLYGALACEÆ. *Milkworts.*

POLYGALA, *Tourn.* *Milkworts. Polygalas.*

SANGUINEA, *L.* *Crimson Polygala.*

Damp meadows. Fairfield, Herkimer county, *in herb. Hadley.* Southern counties, *Knieskern.* Greece, Monroe county, *Bradley.*
Rare. August, September.

VERTICILLATA, *L.* *Whorled-leaved Polygala.*

Dry hillsides. Frequent. June – September.

SENEGA, *L.* *Seneca Snakeroot.*

Rocks and dry woods. Schenectady. *Pearson.* On the sides of Black river below Watertown. Genesee valley, Greece, *Bradley.* Penn-Yan, *Sartwell.*
Rare. June, July.

POLYGAMA, *Walter.* *Polygamous Polygala.*

Barrens, sandy woods. Pine plains west of Rome, *Vasey.* One mile north of New-London, *Knieskern.* Oneida lake, *Gray.* Rare. July, August.

PAUCIFOLIA, *Willd.* *Gay-wings. Fringed Milkwort. Few-leaved Polygala.*

Abundant at Cooperstown, in low meadows and borders of woods, *Miss S. Cooper.* Schoharie county, rare, *Knieskern* Pine plains of Rome, *Vasey.* Evergreen woods on the banks of Black river below Watertown.
With white flowers, at Schenectady, *Pearson;* and Otsego county, *Mrs. J. Shaw.* Uncommon. May, June.

## LEGUMINOSÆ. *Legumes.*

LUPINUS, *Tourn.* *Wild Lupine.*

PERENNIS, *L.* *Perennial Lupine.*

Sandy banks, pine woods. Plains of Schenectady, *Pearson.* Pine plains of Rome and Oneida lake, abundant. Near Owasco lake, *I. H. Hall.*
Infrequent. June.

CROTALARIA, *L.* *Rattlebox.*

SAGITTALIS, *L.* *Arrow-leaved Crotalaria.*

Rocks, sand. Rocks, Kingsbridge, N.Y., *Carey in herb. Ham. Coll.* Troy, *Beck in herb.* Rare. June, July.

TRIFOLIUM, *L.* *Clovers. Trifolia.*

*ARVENSE*, L. *Hare's-foot Trefoil. Field Clover.*

Dry or gravelly soil. Schenectady *Pearson.* Along the Central railroad. Dry borders of Oneida lake, *Knieskern.* Uncommon. July – September.

*PRATENSE*, L. *Red, Meadow Clover.*

Roadsides and fields. Naturalized and cultivated. Common. May – October.

REFLEXUM, *L.* *Reflexed-flowered Clover.*

Open woods. In the neighborhood of Utica, *Knieskern.* Near Salina lake, *Sartwell, Torrey Fl. N.Y.* Rare. June, July.

REPENS, *L.* *White, Creeping Clover.*

Waysides, pastures, deep woods. Everywhere common. May – October.

*AGRARIUM*, L. *Yellow, Agrarian Clover.*

Sandy fields, gravelly banks. Schenectady, *Pearson.* Along the Central railroad. Hillsides opposite Utica. Shore of Lake Ontario at Sackett's-harbor, *Knieskern, Torrey Fl.* Abundant in the cleared swamp west of Fort Bull, Rome. Frequent. July – September.

*PROCUMBENS*, L. *Hop, Procumbent Clover.*

Hillsides. Tarrytown. frequent; also along the Central railroad at Skaneateles lake outlet, *I. H. Hall.* Scarce. August.

MELILOTUS, *Tourn.* *Sweet Clover.*

*OFFICINALIS*, Willd. *Yellow, Officinal Melilot.*

River-banks and roadsides. Not infrequent throughout the valley of the Mohawk. Troy. Schenectady, *Pearson.* Fort-Plain, *B. D. Gilbert.* Little-falls; Utica; Deerfield. Uncommon. July – September.

*ALBA*, Lamarck. *White-flowered Melilot.*

Roadsides and railroads. Utica. Syracuse. Auburn, *Hall.* Frequent. July – October.

MEDICAGO, *L.* *Nonesuch. Black Medick.*

*LUPULINA*, L. *Hop-like Medicago.*

Waste places, streets, railroads. Common. May – November.

*MACULATA*. Willd. *Spotted-leaved Medicago.*

Barren grounds. About the Dexter factories, Oriskany, introduced among wool, *Vasey.* Scarce. June – September.

AMORPHA, *L.* *False Indigo.*

FRUTICOSA, *L* *Shrubby Amorpha.*

var. LEWISII. *Collected by* LEWIS.

Gravelly banks, along the Hudson river railroad, Tarrytown, well established, *I. H. Hall.* June, July.

ROBINIA, *L.* *Locusts.*

PSEUDACACIA, *L.* *False-acacia Robinia.*

A common shade tree. Banks of the Hudson near Troy, *Beck in herb.* Extensively cultivated along the Central railroad, between Utica and Schenectady, for timber. May, June.

TEPHROSIA, *Pers.* *Hoary Pea.*

VIRGINIANA, *Persoon.* *Virginian Tephrosia.*

Sterile hills and sandy woods. Schenectady plains, *Pearson.* Fairfield, Herkimer county, *in herb. Beck.* Junius, Seneca county, *Sartwell in herb. Ham. Coll.* Greece, Monroe county, *Bradley.* Rare. June – August.

ASTRAGALUS, *L.* *Milk-vetch.*

CANADENSIS, *L.* *Canadian Astragalus.*

Banks and shores. Along the east side of Onondaga lake. Seneca lake, *Sartwell in herb. Ham. Coll.* Rare. June, July.

COOPERI, *Gray.* *Discovered by* WILLIAM COOPER.

Gravelly sides of lakes. Slopes along Onondaga lake between Salina and Liverpool. Rare. July, August.

DESMODIUM, *DC.* *Tick-trefoils. Desmodia.*

NUDIFLORUM, *DC.* *Naked-flower-stemmed Desmodium.*

Open woods, along streams. Schenectady, *Pearson.* Valley of the Mohawk. Frequent. July – August.

ACUMINATUM, *DC.* *Acuminate-leafleted Desmodium.*

Rich moist woods, bottoms of ravines. Common August.

ROTUNDIFOLIUM, *DC.* *Round-leafleted Desmodium.*

Dry rocks and sand. Pine plains of Rome, *Knieskern.* Woods north of Auburn, *Hall.* Junius, *Sartwell in herb.* Oak openings of Greece, *Bradley.*

CANESCENS, *DC.* *Canescent Desmodium.*

Damp woods, thickets Schenectady, *Pearson.* Seneca lake. *Beck in herb.* Gorham, Ontario county, *Sartwell in herb. Ham. Coll.* Rare. July, August.

CUSPIDATUM, *Torr. & Gr.* *Cuspidate-bracted Desmodium.*

Shaded streams. Fort Hill Cemetery, Auburn, in a deep rich glen, *I. H. Hall.* Schenectady, *Beck in herb.* Yates county, *Sartwell in herb. Ham. Coll.* Rare. August.

VIRIDIFLORUM, *Beck.* *Green-flowered Desmodium.*

Sandy woods, copses. Cemetery of the old Dutch Church and along the river, Tarrytown, *Hall.* Plains of Schenectady, *Pearson.* Herkimer county, *Beck in herb* Seneca lake. *Sartwell.* Rare. July – September.

DILLENII, *Darlington.* DILLENIUS'S *Desmodium.*

Copses, dry woods and fields. Tarrytown, *I. H. Hall.* Penn-Yan, Yates county. *Sartwell.* Scarce. July, August.

PANICULATUM, *DC.* *Panicled Desmodium.*

Open woodlands, borders of thickets. Dexter, Jefferson county, *Vasey.* Frequent. August.

CANADENSE, *DC.* *Canadian Desmodium.*

Dry woodlands. Otsego county, *H. Lathrop.* Near Oriskany, *Knieskern.* Auburn and Elbridge, *Hall.* Frequent. August.

CILIARE, *DC.* *Fringed Desmodium.*

Sands. Pine plains of Rome, *Knieskern.* Yates county, *Sartwell.* Uncommon. July, August.

MARILANDICUM, *Boott.* *Maryland Desmodium.*

Sandy fields, borders of thickets. Schenectady plains, *Pearson.* Southern counties, *P. D. K. in herb. Ham. Coll.* Yates county, *Sartwell.* Infrequent. August.

LESPEDEZA, *Michx.* *Bush Clovers.*

PROCUMBENS, *Michx.* *Reclining Lespedeza.*

Dry sandy woods and open fields. Tarrytown, *I. H. Hall.* Pine plains of Schenectady, *E. W. Paige.* Yates county, *Sartwell.* Rare. August.

REPENS, *Torr. & Gr.* *Prostrate Lespedeza.*

Common in sandy soil about Tarrytown, not always in dry places, *I.H Hall.* Rare. June – August.

VIOLACEA, *Persoon.* *Violet-flowered Lespedeza.*

Gravelly banks, thickets. Alexandria bay. Penn-Yan, Yates county, *Sartwell.*

var. DIVERGENS, *Torr. & Gr.* *Loose-flowering Lespedeza.*

Junius, Seneca county, *Sartwell in herb. Ham. Coll.*

var. SESSILIFLORA, *Torr. & Gr.* *Close-flowering Lespedeza.*

Schenectady, *Pearson.*

var. ANGUSTIFOLIA, *Torr. & Gr.* *Narrow-leaved Lespedeza.*

Near the Aqueduct, Schenectady, *Pearson.* Frequent. July – September.

STUVEI, *Nuttall.* *Discovered by* W. STUVE.

Sandy woods east of Tarrytown, not common, *I. H. Hall.* Rare. August.

HIRTA, *Elliott.* *Hairy Lespedeza.*

Rocks and woods near the river. Tarrytown, *Hall.* Schenectady, *Pearson.* Alexandria bay. Yates county, *Sartwell in herb. Ham. Coll.*
Infrequent. August, September.

CAPITATA, *Michx.* *Capitate-flowering Lespedeza.*

Hillsides. borders of woods. Tarrytown, *I. H Hall.* Albany, *Beck in herb.* Plains of Schenectady, *Pearson.* Pine barrens of Rome, *Vasey.* Alexandria bay, Jefferson county. Abundant. August, September.

VICIA, *Tourn.* *Tares. Vetches.*

*SATIVA*, L. *Cultivated Vetch.*

Borders of fields, along ditches. Common through the valley of the Mohawk.
June, July.

*TETRASPERMA*, L. *Four-seeded Vetch.*

Banks of the Hudson in the shade, Tarrytown, *Hall.* Albany, *Beck in herb.*
Rare. June – August.

CRACCA, *L.* *Cracca Vetch.*

Plains of Schenectady, *Pearson.* Sandy fields on Paris hill. Between Oriskany and Rome, along the Central railroad. Rare. June – September.

CAROLINIANA, *Walter.* *Carolina Vetch.*

Brooksides along the Mohawk. Below Utica. Yates county, *Sartwell.*

AMERICANA, *Muhl.* *American Vetch.*

Shady places along streams. Seneca lake, *Gray.* Penn-Yan, *Sartwell.* Greece, *Bradley.* Scarce. June.

LATHYRUS, *L.* *Vetchling.*

MARITIMUS, *Bigelow.* *Beach Pea. Seaside Lathyrus.*

Sandy shores of Oneida lake, *Knieskern.* Shore of Lake Ontario, *Gray.*
Rare. June, July.

OCHROLEUCUS, *Hooker.* *Cream-colored-flowered Lathyrus.*

Shaded banks. Watertown, Jefferson county, *Crawe;* Gorham, Ontario county, *Sartwell; Gray in Rare plants of Northern N.Y.* Monroe county, *C. M. Booth.* Rare. June, July.

PALUSTRIS, *L.* *Marsh Lathyrus.*

Borders of marshes, rivers, lakes. Banks of the Mohawk; and of the St. Lawrence at Alexandria bay. Genesee river below Rochester, *Sartwell.*
Scarce. July – September.

var. MYRTIFOLIUS, *Gray.* *Myrtle-leaved Lathyrus.*

Shores. Northern N.Y., *Gray in New and Rare plants.* Seneca lake, *Sartwell in herb. Ham. Coll.* Rare. July, August.

PHASEOLUS, *L.* *Kidney Bean.*

PERENNIS, *Walter.* *Perennial Phaseolus.*

Hillsides. Tarrytown, *Hall.* Yates county, *Sartwell.* Rare. July, August.

APIOS, *Boerhaave.* *Glycine. Ground-nut.*

TUBEROSA, *Mœnch.* *Tuberous Apios.*

Thickets near water. West of Schenectady, *Pearson.* West bank of Otsego lake, *Miss S. Cooper.* Banks of the Mohawk river. Oriskany swamp, *Knieskern.* Alexandria bay, Jefferson county. Abundant on Owasco lake outlet, *I. H. Hall.* Greece, Monroe county, *Bradley.* Frequent. July – September.

AMPHICARPÆA, *Elliott.* *Ground Peanut.*

MONOICA, *Nuttall.* *Monœcious Amphicarpæa.*

Damp thickets, rich wet woods. Common. July – October.

BAPTISIA, *Ventenat.* *Wild Indigo.*

TINCTORIA, *R. Brown.* *Dyeing Baptisia.*

Dry woods and sandy soil. Between Schenectady and Amsterdam, *Pearson.* Saratoga county, *L. Collins.* Junius, Seneca county. *Sartwell in herb. Ham. Coll.* Greece, Monroe county, *Bradley.* Vicinity of Rochester, *C.M.Booth.* Scarce. June – August.

CASSIA, *L.* *Wild Senna.*

MARILANDICA, *L.* *Maryland Cassia.*

Rich moist banks. Abundant about Ballston lake, *Pearson.* Chenango valley, *Knieskern.* Uncommon. July, August.

CHAMÆCRISTA, *L.* *Dwarf, Ground-touching Cassia.*

Sandy hills and grounds. Albany, *Beck in herb.* Whitesboro, *Dr. Gates in herb. Beck.* Often introduced into gardens. July – October.

NICTITANS, *L.* *Sensitive-plant. Closing Cassia.*

Banks of gravel or sand. Common at Tarrytown, *I. H. Hall.* From the North river, *Sartwell in herb. Ham. Coll.* Troy, *Beck in herb.* Rare. July – September.

GYMNOCLADUS, *Lamarck.* *Coffee-tree.*

CANADENSIS, *Lam.* *Canadian Gymnocladus.*

Rich bottoms along streams and shores Near Cayuga lake, *Thompson in Torrey Fl. N.Y.* Ithaca, *in herb. Van Duzee.* Seneca lake, *Sartwell in herb. Ham. Coll.* Rare. May, June.

## ROSACEÆ. *Roses.*

PRUNUS, *L.* *Plums. Cherries.*

AMERICANA, *Marshall.* *Wild Plum.*

Thickets on river-banks, along fences. Common over the flats of the Mohawk. April.

*SPINOSA*, L. *Thorny Plum.*

Roadsides and old fields. Frequent. April.

*DOMESTICA*, L. *Garden Plum.*

Common in the northern part of the county, spontaneous on edges of gardens, dooryards, and forming thickets along fences. May.

PUMILA, *L.* *Dwarf Cherry.*

Sterile rocks and sand. On the plains of Schenectady, *Pearson* Clefts of rocks by the side of Black river opposite Watertown, Jefferson county. Rare. April, and early in May.

PENNSYLVANICA, *L.* *Bird, Red Cherry.*

Abundant in clearings and ground recently burned over. Common in the fields of the north woods reverting to wilderness. The worthless successor of the noble Spruce and valuable Pine. There is, however, only one generation: after a few years, having attained the height of about thirty feet, they die and fall, to be replaced by the hard woods. May.

VIRGINIANA, *L.* *Cabinet, Choke Cherry.*

Borders of woods, thickets, river-banks. Common. June.

SEROTINA, *Ehrhart.* — *Black, Late Cherry.*

Woods, fences and water-courses. Formerly abundant, now scarce. June.

*VULGARIS*, Miller. — *Common, Sour Cherry.*

Frequent beside gardens, walls, roadsides. April.

SPIRÆA, *L.* — *Meadowsweet.*

OPULIFOLIA, *L.* — *Opulus-leaved Spiræa.*

Rocky woods and water-sides. Albany, *Beck in herb.* Banks of Norman's kill, Schenectady county *E. W. Paige.* Otsego county, *H. Lathrop.* Ithaca, Tompkins county, *Sartwell in herb. Ham. Coll.* Rare. June, July.

SALICIFOLIA, *L.* — *Willow-leaved Spiræa.*

Swamps, meadows, banks of brooks. Common throughout the valley of the Mohawk. Borders of lakes, along streams and in beaver meadows of the north woods. Alexandria bay on the St. Lawrence. Frequent. July – Sept.

TOMENTOSA, *L.* — *Hardhack. Tomentose Spiræa.*

Sterile soils, pastures. Schenectady. *Pearson.* Saratoga county, *L. Collins.* Otsego county, *H. Lathrop.* Low grounds in the northern part of the State. Scarce. July – September.

GILLENIA, *Mœnch.* — *Indian Physic.*

TRIFOLIATA, *Mœnch.* — *Trifoliate Gillenia.*

Rich open woods and thickets. Bridgewater, *Gray in herb. Beck.* Near Waterville *Miss J. E. Johnson.* Sides of the Oriskany valley from Clinton southward, *Dr. John A. Paine.* Banks of Seneca lake, *Vasey.* Rare. June.

AGRIMONIA, *Tourn.* — *Common Agrimony.*

EUPATORIA, *L.* — *The Ancient Eupatorion.*

Waysides, ravine-bottoms. Common. June – September.

SANGUISORBA, *L.* — *Burnet.*

CANADENSIS, *L.* — *Canadian Sanguisorba.*

Wet rocks, low meadows, swamps. Wet flats of the Mohawk between Utica and Frankfort. Cedar swamp, Oriskany, *Knieskern.* Above Trenton falls towards Prospect, rocks near the creek. Deep cedar swamp on Paris hill. Borders of Hidden lake, Litchfield. Fish creek. Victor, Ontario county, *Bradley.* Scarce. July – October.

GEUM, *L.* — *Avens. Geum.*

ALBUM, *Gmelin.* — *White-flowered Avens.*

Damp woods and their borders. Abundant. June – August.

VIRGINIANUM, *L.* — *Virginian Avens.*

Common in swamps on the flats of the Mohawk, especially in the damp cleared grounds; also in the thickets along the river-banks. Rare elsewhere. June, July.

STRICTUM, *Aiton.* — *Yellow, Upright Avens.*

Swamps, woods, low pastures, fences. Common. June – August.

RIVALE, *L.* — *Nodding, Purple, Rivulet Avens.*

Cedar swamps and wet meadows. Common. May – July.

TRIFLORUM, *Pursh.* — *Three-flowered Avens.*

On rocks, Watertown, Jefferson county; very rare, *Crawe, Torrey Fl. N. Y.* May, June.

WALDSTEINIA, *Willd.* — *Barren Strawberry.*

FRAGARIOIDES, *Trattinick.* — *Strawberry-like Waldsteinia.*

Dry woods under the shade of hemlocks or arbor vitæ, hillsides of streams, sometimes in swamps. Frequent. May – August.

POTENTILLA, *L.* — *Cinquefoils.*

NORVEGICA, *L.* — *Norwegian Potentilla.*

Roadsides, fields, pastures. Common. June – August.

CANADENSIS, *L.* — *Canadian Potentilla.*

Sandy wastes. Common at Schenectady, *Pearson.* Pine plains, Rome, and sandy fields near the head of Oneida lake, *Knieskern.* Frequent. May – September.

var. PUMILA, *Torr. & Gr.* — *Dwarf Potentilla.*

Old pastures. Common. April – June.

var. SIMPLEX, *Torr. & Gr.* — *Simple-stemmed Potentilla.*

Copses and clearings. Abundant. May – August.

ARGENTEA, *L.* — *Silvery Potentilla.*

Chiefly on rocks and gravelly banks. Schenectady. Littlefalls. Below Watertown. About Oneida lake. Frequent. May – September.

ARGUTA, *Pursh.* — *Sharp-serrated-leaved Potentilla.*

Open rocky hills, Tarrytown, *I. H. Hall.* Sides of Wolf hollow, Schenectady county, *E. W. Paige.* Rare. June – August.

ANSERINA, *L.* — *Silverweed. Goose Potentilla.*

Shores of rivers and lakes. Near Sanders's lake, *Pearson.* Borders of Otsego lake, *B. D. Gilbert.* Common all round Onondaga lake. Crooked lake, *Sartwell.* Rare. June – November.

FRUTICOSA, *L.* — *Shrubby Potentilla.*

Cold swamps. Summit lake, on the hill-top between Fort-Plain and Cooperstown, source of the Susquehanna, where it covers acres of open marsh land. Abundant on the cliffs of Fish creek from Taberg, northward; especially near Fall brook, hanging from the clefts of the rocks as far and as high as the eye can reach. It has been found also at Junius, Seneca county, by *Sartwell;* at Greece, Monroe county, by *Bradley;* at Bergen, Genesee county, by *G. T. Fish;* and at Avon, Livingston county, by *G. W. Clinton.* Rare. June – August.

PALUSTRIS, *Scopoli.* — *Marsh Potentilla.*

Cold marshes. Summit lake, Otsego county. Hidden lake, Litchfield. Swamp west of Fort Bull, Rome. Abundant in the streams and low lands at the head of Oneida lake. Common on the marshes in the northern part of the county, and about the lakes of the north woods. Rare. May – September.

FRAGARIA, *Tourn.* — *Strawberries.*

VIRGINIANA, *Ehrhart.* — *Wild Strawberry.*

Woods, pastures, meadows. Everywhere. April – October.

VESCA, *L.* — *Alpine, Edible Strawberry.*

Rocks, around old stumps and logs, evergreen woods. Common. May.
A variety with different leaves and bearing white fruit, occurs rarely in the north woods. Trenton falls, borders of the wood south of Moore's Hotel, *William Calverly.* Also Delaware county, *B. D. Gilbert.* June.

DALIBARDA, *L.* — *Dewdrop. False Violet.*

REPENS, *L.* — *Creeping Dalibarda.*

Moist banks, evergreen woods and swamps. Common. May – August.

RUBUS, *L.* *Brambles. Raspberries. Blackberries.*

ODORATUS, *L.* *Rose-flowering, Fragrant Raspberry.*

Cliffs, steep banks and ravine sides. Common. June – September.

TRIFLORUS, *Richardson.* *Dwarf, Three-flowered Raspberry.*

Damp shaded woods and swamps. Common.

A form with pink-colored flowers grows on the cliffs of Fish creek, where the rocks are constantly wet. June.

STRIGOSUS, *Michx.* *Red, Strigose Raspberry.*

Roadsides, fences, borders of woods. Common on clearings. May – July.

OCCIDENTALIS, *L.* *Black, Western Raspberry.*

Waysides, walls, thickets. Common. May, June.

VILLOSUS, *Aiton.* *High, Villous Blackberry.*

Open woods and cleared land. Common.

var. FRONDOSUS, *Torrey.* *Leafy-bracted Blackberry.*

Littlefalls, *Gray in herb. Ham. Coll.*

var. HUMIFUSUS, *Torr. & Gr.* *Trailing Blackberry.*

Yates county, *Sartwell in herb. Ham. Coll.*

var. *The White Blackberry,*

is found growing spontaneously near Cooperstown, Otsego county, by *Dr. Horace Lathrop.* May, June.

CANADENSIS, *L.* *Dewberry. Canadian Blackberry.*

Barren banks and borders of swamps. North woods. Frequent. May.

HISPIDUS, *L.* *Swawp, Hispid Blackberry.*

Wet woods and sphagnum swamps. Common. June, July.

ROSA, *Tourn.* *Wild Roses.*

SETIGERA, *Michx.* *Bristle-bearing Rose.*

Thickets on the rocky plains, above the cliff below the village of Littlefalls. Ravine of Chittenango creek below the falls. Penn-Yan, *Sartwell.* Escapes occasionally. July, August.

CAROLINA, *L.* *Swamp Rose.*

Borders of swamps, and grassy bogs along streams. Common. July – September.

LUCIDA, *Ehrhart.* *Dwarf, Bright-leaved Rose.*

Old fields and sandy open woods. Schenectady, *Pearson.* Otsego county, *Miss S. Cooper.* Yates county, *Sartwell.* Uncommon. June, July.

BLANDA, *Aiton.* *Early, Thornless Rose.*

Abundant on banks and knolls on the flats of the Mohawk. About Otsego lake, *Miss S. Cooper.* Coon Chisholm's, Schenectady, *Pearson.* Frequent. May, June.

*RUBIGINOSA*, L. *Sweetbrier. Eglantine. Rusty Rose.*

Uncultivated fields, pastures. Common. June, July.

*CINNAMOMEA*, Besler. *Cinnamon Rose.*

*var. FECUNDISSIMA*, Lindley. *Double Cinnamon Rose.*

Forming thickets about dwellings, fences, roadsides. Common. May – July.

CRATÆGUS, *L.* *Thorn-bushes.*

OXYACANTHA, L. *Hawthorn. Sharp-spined White Thorn.*
Hedges and fields. Frequent. May.

COCCINEA, *L.* *Scarlet-fruited Thorn.*
Borders of sandy or rocky woods. Abundant. May, June.

TOMENTOSA, *L.* *Black, Woolly Thorn.*
Thickets, old pastures. Along fences and ditches on the flats of the Mohawk. Common. May.

var. PYRIFOLIA, *Gray.* *Pear-leaved Thorn.*
Thickets on sandy or gravelly soil. Schenectady, *Pearson.* Scarce. May. June.

var. PUNCTATA, *Gray.* *Dotted-fruited Thorn.*
Open low bottoms of streams on the flats of the Mohawk, forming thickets with the willows. Common. May.

CRUS-GALLI, *L.* *Cockspur Thorn.*
Hedges, roadsides, banks of streams. Abundant. June.

PYRUS, *L.* *Apple. Pear.*

CORONARIA, *L.* *Fragrant Crab-apple.. Garland Pyrus.*
Open woods about Oriskany, *Knieskern.* Yates county, indigenous, *Sartwell.* Rare. May.

*MALUS*, L. *Common Apple. The Classical Malus.*
Neglected fields, borders of woods. A stunted form in old pastures, roadsides. Frequent. May.

ARBUTIFOLIA, *L.* *Arbutus-leaved Pyrus.*
Borders of swamps. Common.

var. ERYTHROCARPA, *Torr. & Gr.* *Red-fruited Chokeberry.*
Sphagnum swamps, water-sides.

var. MELANOCARPA, *Torr. & Gr.* *Black-fruited Chokeberry.*
Sandy plains and on rocks. May.

AMERICANA, *DC.* *Mountain-ash. American Pyrus.*
Cold swamps. Graefenberg hill, southeast of Utica. Swamps on the Pine plains; low deep woods near Oneida lake. Abundant along the streams and lakes of the north woods, where it is a high tree. June.

AMELANCHIER, *Medik.* *Juneberry.*

CANADENSIS, *Torr. & Gr.* *Shadbush.*
River banks, ravine-sides, low thickets. Common.

var. BOTRYAPIUM, *Torr. & Gr.* *Pyriform-clustered-flowered Juneberry.*
Sandy or rocky woods. Abundant.

var. OBLONGIFOLIA, *Torr. & Gr.* *Long-leaved Juneberry.*
Borders of woods, and streams. Common.

var. ROTUNDIFOLIA, *Torr. & Gr.* *Round-leaved Juneberry.*
Low sandy woods. Borders of Crooked lake, *Sartwell.* Uncommon.

var. OLIGOCARPA, *Torr. & Gr.* *Few-fruited Juneberry.*
Wet mountain swamps, New-York, *Torrey & Gray.* On mountains in the northern part of the State, *Torrey Fl. N.Y.* Rare. April, May.

## MELASTOMACEÆ. *Melastomas.*

RHEXIA, *L.* *Deer-grass. Meadow Beauty.*

VIRGINICA, *L.* *Virginian Rhexia.*

Low sands and shores. About Oneida lake near Constantia, *Vasey*. Between the mouth of Fish creek and Rotterdam, near the latter place, *Knieskern*. Rare. June – September.

## LYTHRACEÆ. *Loosestrifes.*

LYTHRUM, *L.* *True Loosestrife.*

SALICARIA, *L.* *Spiked, Willow-like Loosestrife.*

Swamps. Junius, Wayne county, *Sartwell in herb. Ham. Coll.* Rochester, *C. Dewey*. Rare. July, August.

NESÆA, *Comm.* *Swamp Loosestrife.*

VERTICILLATA, *H. B. K.* *Whorled-flowered Loosestrife.*

Lake shores; borders of ponds in sphagnum swamps. Ballston lake, *Pearson*. Fairfield, *Hadley in herb*. Wetmore's sphagnum pond, Frankfort hill. Marsh at the head of Oneida lake, *Knieskern*. Uncommon. August.

CUPHEA, *Jacquin.* *Cuphea.*

VISCOSISSIMA, *Jacq.* *Very-clammy Cuphea.*

Old fields and gravelly places, northern part of the State, *Stevenson and Knieskern, Torrey Fl. N.Y.* Rare. August.

## ONAGRACEÆ. *Evening Primroses.*

EPILOBIUM, *L.* *Willow-herbs. Epilobia.*

ANGUSTIFOLIUM, *L.* *Narrow-leaved Epilobium.*

Copses and new lands : even in the north woods, springing up abundantly after fires. Common. July – September.

PALUSTRE, *L.* : var. LINEARE, *Gray.* *Linear-leaved Epilobium.*

Cold mossy swamps. Litchfield, near Jerusalem hill; Hidden lake, on its borders, under cedars and tamaracks. Abundant in the sphagnum swamps and beaver meadows of the north woods.

The small few-flowered form, *E. oliganthum*, MICHAUX, on the hills about Oriskany, *Vasey*. Scarce. July – September.

MOLLE, *Torrey.* *Downy Epilobium.*

Wet banks. Hungry kill beyond Coon Chisholm's, Schenectady, *Pearson*. Summit lake, Otsego county. Hidden lake, south Herkimer county. Bridgewater, *Gray in herb. Ham. Coll.* Damp meadows near Oriskany, *Knieskern*. Common on cold marshes in the northwestern part of the county, near Fish creek and Point of Rock lake. Common. August, September.

COLORATUM, *Muhl.* *Colored-leaved Epilobium.*

Low grounds, brook-sides. Frequent. July – October.

ŒNOTHERA, *L.* *Evening Primroses.*

BIENNIS, *L.* *Biennial Evening-primrose.*

Railroads, roadsides, waste fields.

var. MURICATA, *Torr. & Gr.* *Prickly Evening-primrose.*

Schenectady, *Pearson*.

var. GRANDIFLORA, *Torr. & Gr.* *Large-flowered Evening-primrose.*

Low grounds. Flats of the Mohawk. Common. June – August.

FRUTICOSA, *L.* *Shrubby Evening-primrose.*

Open sandy woods. Schenectady, *Pearson.* Delaware county, *B. D. Gilbert.* Near Rochester, *C. M. Booth.* Infrequent. July.

CHRYSANTHA, *Michx.* *Golden-flowered Evening-primrose.*

Rocky woods and banks of streams. Ravine between New-Hartford and Paris hill. Bridgewater, *Gray*, and Perch lake, *W. A. Wood in herb. Ham. Coll.* Near Oswego, *Knieskern, Torrey Fl. N.Y.* Frequent. July, August.

PUMILA, *L.* *Dwarf Evening-primrose.*

Sandy fields, cleared uncultivated land, poor meadows. Common. June, July.

GAURA, *L.* *Gaura.*

BIENNIS, *L.* *Biennial Gaura.*

Dry fields and river-banks. Along the Mohawk at Fort-Plain, *B. D Gilbert.* In a berry field on Graefenberg hill, *J. G. Crocker.* Banks of Seneca lake, *Gray in herb. Beck, Sartwell in herb. Ham. Coll.* Owego, Tioga county, *Knieskern.* Parma, Monroe county, *Bradley.* Scarce. August – October.

LUDWIGIA, *L.* *False Loosestrifes.*

ALTERNIFOLIA, *L.* *Seedbox. Alternate-leaved Ludwigia.*

Borders of swamps in Tarrytown and wet woods in Westchester, *Hall.* Albany, *G. W. Clinton in herb. Beck.* Schenectady, on the banks of the Mohawk, *Pearson.* Rare. July, August.

PALUSTRIS, *Elliott.* *Marsh Ludwigia.*

Muddy edges of pools and streams. Common. June – October.

CIRCÆA, *Tournefort.* *Enchanter's Nightshade.*

LUTETIANA, *L.* *Mignonette-like Circæa.*

Damp woods. Common June, July.

ALPINA, *L.* *Mountain Circæa.*

Shaded springy banks, ravine-sides. Common. July, August.

PROSERPINACA, *L.* *Mermaid-weeds.*

PALUSTRIS, *L.* *Marsh Mermaid-weed.*

Stagnant water, ponds. Albany, *Beck in herb.* In a beaver meadow south of Vernon, *J. S. Douglass, Knieskern.* Gorham marshes, Ontario county, *Sartwell.* Scarce. July, August.

PECTINACEA, *Lamarck.* *Pectinate-leaved Mermaid-weed.*

Ditches in a beaver meadow near Vernon village, *J. S. Douglass, Knieskern cat.* Rare. July.

MYRIOPHYLLUM, *Vaillant.* *Water-milfoils.*

SPICATUM, *L.* *Spiked-flowered Myriophyllum.*

Ponds, lakes. Yates county, *Sartwell in herb. Ham. Coll.* Irondequoit bay, Monroe county, *C. M. Booth.* Rare. July, August.

VERTICILLATUM, *L.* *Whorled-flowered Myriophyllum.*

Still waters. Sander's lake, *Pearson.* Oneida county, *Knieskern.* Uncommon. July – September.

HETEROPHYLLUM, *Michx.* *Variable-leaved Myriophyllum.*

Pools and marshes. Borders of the Irondequoit bay of Lake Ontario, *C. M. Booth.* Scarce. June – August.

TENELLUM, *Bigelow.* — *Slender Myriophyllum.*

Gravelly bottoms of ponds in shallow water. Northern part of the State, *Torrey Fl. N.Y.* Rare. July, August.

HIPPURIS, *L.* — *Mare's-tail.*

VULGARIS, *L.* — *Common Hippuris.*

Lakes. Sander's lake, Scotia, *Pearson.* Schuyler's lake, Otsego county; Alexandria bay, *G. W. Clinton.* Cayuga lake, *J. Smith in herb. Ham. Coll.* Rare. June – August.

## CACTACEÆ. — *Cactus.*

OPUNTIA, *Tourn.* — *Prickly Pear. Indian Fig.*

VULGARIS, *Miller.* — *Common Opuntia.*

Rocks and sands. The most northern locality in the State is Fairfield, Herkimer county, where it was found by Prof. HADLEY, *Torrey Fl. N.Y. In herb. Hadley,* without habitat. June, July.

## GROSSULACEÆ. — *Currants.*

RIBES, *L.* — *Gooseberries. Currants.*

CYNOSBATI, *L.* — *Prickly, Dog-bramble Gooseberry.*

Hillsides. Common. May.

HIRTELLUM, *Michx.* — *Hairy Gooseberry.*

Rocky woods. Steep banks near Utica. Yates county, *Sartwell in herb. Ham. Coll.* Frequent. May.

ROTUNDIFOLIUM, *Michx.* — *Smooth, Round-leaved Gooseberry.*

Cold swamps. Abundant in the State swamp near Jerusalem hill. Hidden lake. June.

LACUSTRE, *Poiret.* — *Swamp Gooseberry.*

Upland swamps, northern part of the State, *Torrey Fl. N.Y.* Hanging from wet rocks, in the spray from Fall brook, four miles north of Taberg. More above, along Fish creek. Rare. May, June.

PROSTRATUM, *L'Héritier.* — *Prostrate Currant.*

Common in cold cedar swamps, and along woodland brooks on the hills. May.

FLORIDUM, *L'Héritier.* — *Flowering Currant.*

Wet woods and open grounds. Common. May.

RUBRUM, *L.* — *Red Currant.*

Swampy woods, low shaded flats of streams, hillsides and ravines. Frequent. The true native variety, along a small stream on hills north of Salmon falls; different from the Red Currant of the gardens, *Vasey.* May.

## CUCURBITACEÆ. — *Cucumbers.*

SICYOS, *L.* — *Single-seeded Cucumber.*

ANGULATUS, *L.* — *Angular-leaved Sicyos.*

Waste places in and near cities; occasional along streams. Common in Utica. July – October.

ECHINOCYSTIS, *Torr. & Gr.* — *Prickly Cucumber. Balsam-apple.*

LOBATA, *Torr. & Gr.* — *Lobed-leaved Echinocystis.*

River-bottoms. Common throughout the valley of the Mohawk, on all parts of the flats, from the river banks, along fences and brooks to the hills. July, August.

## CRASSULACEÆ. *Orpines.*

SEDUM, *L.* *Stonecrop.*

TERNATUM, *Michx.* *Ternate-leaved Sedum.*

Takes possession of shaded banks in gardens and lawns. May – July.

TELEPHIOIDES, *Michx.* *Orpine-like Sedum.*

High on the cliffs at Chittenango falls; where it hangs from clefts and seats of the rocks, within reach of the spray. June.

*TELEPHIUM*, L. *Orpine. The Ancient Telephion.*

Gravelly banks and shores. Common down the valley of the St. Lawrence; on the Thousand Islands, at Alexandria bay. Escapes into roads, fences, banks. Littlefalls. Trenton. Utica. Frankfort hill. August – September.

PENTHORUM, *Gronovius.* *Ditch Stonecrop.*

SEDOIDES, *L.* *Sedum-like Penthorum.*

Roadsides, ditches, swamps. Common. July – September.

## SAXIFRAGACEÆ. *Saxifrages.*

SAXIFRAGA, *L.*

AIZOIDES, *L.* *Aizoon-like Saxifraga.*

Wet cliffs on the east branch of Fish creek. Discovered many years ago, by *Knieskern and Vasey*, at its lowest station between the Railroad and Taberg, on an upright rocky side, wet by a brook pouring over into the creek; in company with *Primula mistassinica*. Here, however, there are only a few plants, on the space of a few square feet, wanderers from the multitude above. The creek comes from the north for many miles through a deep ravine, and, flowing from one side to the other, causes upright rocky precipices, which vary in height from fifty to one hundred and twenty-five, and in length from one hundred to one thousand feet. The woods still remain above, so that these precipices are always wet with dripping water. On these cold wet rocks, in shade or looking towards the north, the *Yellow Mountain Saxifrage* abounds, frequently in mats. It bears many flowers, and the golden clusters, visible at a distance, may be found in June. Local.

VIRGINIENSIS, *Michx.* *Early, Rock Saxifraga.*

Rocks. Little falls; Trenton falls; Fish creek; Chittenango falls; Black river; Alexandria bay. Frequent. April, May.

PENNSYLVANICA, *L.* *Swamp Saxifraga.*

Low borders of streams, swamps. Common. June.

MITELLA, *Tourn.* *Fringe-cup. Mitre-wort.*

DIPHYLLA, *L.* *Two-leaved-stemmed Mitella.*

Woods and ravine-sides. Common. April, May.

NUDA, *L.* *Leafless-stemmed Mitella.*

Arbor-vitæ swamps. Common about decaying stumps and logs, overrunning them, in damp moss and deep shade, with *Listera cordata* and *Corallorhiza innata*, a beautiful and interesting plant. Frequent. May, June.

TIARELLA, *L.* *Bishop's-cap.*

CORDIFOLIA, *L.* *Cordate-leaved Tiarella.*

Hilly woods. Common. May.

CHRYSOSPLENIUM, *Tourn.* *Golden Saxifrage.*

AMERICANUM, *Schweinitz.* *American Chrysosplenium.*

Swamps, springy places, rivulet borders, in the shade. Common. April, May.

## HAMAMELACEÆ. *Witch-hazels.*

HAMAMELIS, *L.* *Witch-hazel.*

VIRGINICA, *L.* *Virginian Hamamelis.*

Low woods and thickets; sides and bottoms of ravines.
Common. September – November.

## UMBELLIFERÆ. *Umbellifers.*

HYDROCOTYLE, *Tourn.* *Water Pennywort.*

AMERICANA, *L.* *American Hydrocotyle.*

Springy banks, brooks, wet rocks. Common. June – September.

UMBELLATA, *L.* *Umbellate Hydrocotyle.*

Springs and shores. Near Albany, *Beck and Tracy, Torrey Fl. N.Y.*
Rare. June – August.

SANICULA, *Tourn.* *Sanicles.*

CANADENSIS, *L.* *Canadian Sanicula.*

Dry woods and thickets. Infrequent. June, July.

MARILANDICA, *L.* *Maryland Sanicula.*

Swamps, damp woodlands. Common. June – August.

DAUCUS, *Tourn.* *Wild Carrot.*

*CAROTA*, L. *Common Carrot.*

Railroads, roadsides, waste places. Banks of the Mohawk, *Pearson.* Near Utica. Auburn, *I. H. Hall.* Uncommon. June – September.

HERACLEUM, *L.* *Cow Parsnip.*

LANATUM, *Michx.* *Woolly Heracleum.*

Flats of streams, low meadows. Common in the valley of the Mohawk. June.

PASTINACA, *Tourn.* *Wild Parsnip.*

*SATIVA*, L. *Common, Sowed Pastinaca.*

Roadsides, fences, banks of streams. Common. July.

ARCHANGELICA, *Hoffmann.* *Archangelicas.*

HIRSUTA, *Torr. & Gr.* *Downy Archangelica.*

Borders of woods. Albany, *Beck in herb.* Yates county, *Sartwell in herb. Ham. Coll.* About Rochester, *C. M. Booth.* July, August.

ATROPURPUREA, *Hoffm.* *Dark-purple-stemmed Archangelica.*

Common on the flats of the Mohawk throughout. June.

CONIOSELINUM, *Fischer.* *Hemlock Parsley.*

CANADENSE, *Torr. & Gr.* *Canadian Conioselinum.*

Cold swamps, in shade. Oriskany swamp, a very rare plant, *Knieskern.* On the banks of Chenango river, *Knieskern, Torrey Fl. N.Y.*
Rare. August, September.

ÆTHUSA, *L.* *Fool's Parsley.*

*CYNAPIUM*, L. *Dog's-poison Æthusa.*

Waste places in cities, villages. Common in Clinton. July, August.

THASPIUM, *Nuttall.* — *Meadow Parsnip.*

BARBINODE, *Nuttall.* — *Fringed-jointed Thaspium.*

Borders of woods and rivers. Valley of the Chemung river, *Knieskern, Torrey Fl. N.Y.* Genesee valley, abundant, *C. M. Booth.* Scarce. June, July.

AUREUM, *Nuttall.* — *Golden-flowered Thaspium.*

Wet meadows and along streams.

var. APTERUM, *Gray.* — *Wingless-fruited-sharp-leaved Thaspium.*

Open woods and damp meadows, Oriskany, *Knieskern.* Frequent. May, June.

TRIFOLIATUM, *Gray.* — *Three-parted-leaved Thaspium.*

var. APTERUM, *Gray.* — *Wingless-fruited-round-leaved Thaspium.*

Meadows. Yates county, *Sartwell in herb. Ham. Coll.* Rare. May.

ZIZIA, *DC.* — *Zizia.*

INTEGERRIMA, *DC.* — *Perfectly-entire-leaved Zizia.*

Dry woods and rocks. Abundant in the pine woods of Schenectady county. Gravelly borders of Oneida lake, *Knieskern.* Rocky banks of the Black river below Watertown. Scarce. May, June.

CICUTA, *L.* — *Water Hemlock.*

MACULATA, *L.* — *Spotted-stemmed Cicuta.*

Wet meadows, streams, swamps. Common. July, August.

BULBIFERA, *L.* — *Bulb-bearing Cicuta.*

Borders of marshes, creeks, lakes. Common in the north woods. Frequent. August.

SIUM, *L.* — *Water Parsnip.*

LINEARE, *Michx.* — *Linear-leaved Sium.*

Shady swamps. Common. July, August.

CRYPTOTÆNIA, *DC.* — *Honewort.*

CANADENSIS, *DC.* — *Canadian Cryptotænia.*

Shaded places; about dwellings, orchards. Frequent in rich woods, and common in thickets on the banks of the Mohawk. Abundant. June – Aug.

OSMORRHIZA, *Rafinesque.* — *Sweet Cicely.*

LONGISTYLIS, *DC.* — *Long-styled Osmorrhiza.*

Fertile open woods. Uncommon. June, July.

BREVISTYLIS, *DC.* — *Short-styled Osmorrhiza.*

Rich woods, ravines. Common. June – August.

CONIUM, *L.* — *Poison Hemlock.*

*MACULATUM*, L. — *Spotted-stemmed Conium.*

Fences, waste places, damp banks. Frequent in towns, roadsides. Common on the banks of the Erie canal; Schenectady; Littlefalls; Herkimer; Utica; often forming thickets. July.

CARUM, *L.* — *Caraway.*

*CARUI*, L. — *Common Carum.*

Roadsides, remote from dwellings, naturalized. Frequent. May – July.

## ARALIACEÆ. *Aralias.*

ARALIA, *Tournefort.* *Sarsaparilla.*

RACEMOSA, *L.* *Spikenard. Racemose Aralia.*

Fertile woodlands; sides and bottoms of ravines. Abundant. July, August.

HISPIDA, *Michx.* *Bristly Aralia.*

Rocks and swamps. Littlefalls. Sides of the Black river. Abundant in the sandy swamp west of Fort Bull, Rome. Frequent. June, July.

NUDICAULIS, *L.* *Leafless-stemmed Aralia.*

Woods, both high and low. Common. May, June.

QUINQUEFOLIA, *Gray.* *Ginseng. Five-leaved Aralia.*

Ravines and thickets, where it has eluded the hunter; exhausted in many regions, but common in the remote woods. June, July.

TRIFOLIA, *Gray.* *Groundnut. Three-leaved Aralia.*

Moist woods and their borders, in deep soil. Common. April, May.

## CORNACEÆ. *Cornels.*

CORNUS, *Tournefort.* *Dogwoods.*

CANADENSIS, *L.* *Dwarf Cornel. Canadian Cornus.*

Shaded sandy woods. Common. May, June.

FLORIDA, *L.* *Flowering Cornus.*

Hilly woods. Schenectady, along the Platte kill, *Pearson*. Otsego county, *H. Lathrop*. Banks along the outlet of Owasco lake, *I. H. Hall*. Abundant in Yates county, *Sartwell*. Monroe county, *Bradley*. Uncommon. May.

CIRCINATA, *L'Héritier.* *Rounded-leaved Cornus.*

Borders of woods and thickets near water. Pine woods of Schenectady county. Oneida county, *Knieskern*. Trenton falls, *Hadley in herb*. Alexandria bay, on the islands of the river. Frequent. June.

SERICEA, *L.* *Silky Cornus.*

Swamps and water-sides. Summit lake, Otsego county. About Onondaga lake. Alexandria bay. Lake marshes, Yates county, *Sartwell*. Infrequent. June.

STOLONIFERA, *Michaux.* *Stolon-bearing Cornus.*

Wet flats of streams. Abundant. May, June.

PANICULATA, *L'Héritier.* *Panicled Cornus.*

Thickets along the sides of streams. Banks of the Mohawk. Frequent. June, July.

ALTERNIFOLIA, *L.* *Alternate-leaved Cornus.*

Open woods. Common. May.

NYSSA, *L.* *Tupelo. Pepperidge.*

MULTIFLORA, *Wangenheim.* *Many-flowered Nyssa.*

Occasional on the flats of the Mohawk. Borders of Otsego lake. *Miss S. Cooper*. Near Vernon, *Prof. O. Root*. Near Oneida lake, *Knieskern*. Infrequent. April, May.

## B. MONOPETALOUS EXOGENS.

### CAPRIFOLIACEÆ. *Honeysuckles.*

LINNÆA, *Gronovius.* *Twin-flower.*

BOREALIS, *Gronov.* *Northern Linnæa.*

Shady banks and arbor-vitæ swamps. Common in all the cold marshes on the highlands south of the Mohawk, Summit lake, Mud lake, State swamp, Hidden lake. Little falls above the south cliff. Springy wooded slopes on the flats of the Mohawk between Frankfort and Utica. Ravine sides in Deerfield and Marcy. Cedar swamp on Paris hill. Sides of the Black river below Watertown, in evergreen shade. Frequent. June – August.

SYMPHORICARPUS, *Dillenius.* *Snowberry.*

RACEMOSUS, *Michx.* *Racemose Symphoricarpus.*

Rocky banks. Helderberg Prospect rock, *Pearson.* Otsego county, *H. Lathrop.* Along the Black river between Watertown and Dexter. Genesee falls, *Carey in herb. Ham. Coll.* Genesee river banks, Greece, *Bradley.* Rare. June, July.

VULGARIS, *Michx.* *Coral-berry. Common Symphoricarpus.*

Borders of Seneca lake, *Sartwell in herb. Ham. Coll.* Occasionally admitted into gardens and ornamental grounds. July – September.

LONICERA, *L.* *Honeysuckles.*

SEMPERVIRENS, *Aiton.* *Trumpet-honeysuckle. Evergreen Lonicera.*

Banks near the river, Tarrytown and on the hills eastward, *I. H. Hall.* Thickets along the borders of Otsego lake, *B. D. Gilbert: H. Lathrop.* Rare. June, July.

GRATA, *Aiton.* *True Woodbine. Pleasant Lonicera.*

Rocky hillsides. Otsego county, *H. Lathrop.* Shore of Lake Ontario, two miles northeast of Oswego. Rare. May.

PARVIFLORA, *Lamarck.* *Small-flowered Lonicera.*

Rocks and damp banks. Schenectady. Littlefalls. Swamps about Oriskany, *Knieskern.* Beyond Fort Bull, Rome. Along Wood creek. Rocky ravine-sides of Fish creek. Borders of Onondaga lake. Rocky banks of the Black river. Frequent. May.

HIRSUTA, *Eaton.* *Hairy Lonicera.*

Rocks and shaded woods. Helderberg mountains, *Pearson.* Otsego county, *Miss S. Cooper.* Fairfield, Herkimer county, *Eaton bot.* On the berm bank of the Erie canal about halfway between Oriskany and Rome, in low grounds, *Knieskern.* Rocky woods down the Black river below Watertown. Potter, Yates county, *Sartwell.* Rare. July.

CILIATA, *Muhl.* *Fly-honeysuckle. Ciliate-leaved Lonicera.*

Ravine-sides and shady swamps. Common. April, May.

CÆRULEA, *L.* *Mountain-honeysuckle. Blue-berried Lonicera.*

Cold swamps. Near Vernon, *J. S. Douglass; Knieskern.* Phelps, Ontario county, *Sartwell.* Rare. May, June.

OBLONGIFOLIA, *Muhl.* *Swamp-honeysuckle. Oblong-leaved Lonicera.*

Upland swamps on the range of hills south of the Mohawk valley. Headwaters of the Susquehanna river: abundant at Summit lake, Springfield, Otsego county; and at Mud lake, south Herkimer county. Headwaters of the Unadilla river: borders of Hidden lake, Litchfield, and the deep State marsh near Jerusalem corners. Scarce, June,

DIERVILLA, *Tournefort.* *Bush-honeysuckle.*

TRIFIDA, *Mœnch.* *Three-parted-peduncled Diervilla.*

Cliffs and ravine-sides. Common. June, July.

TRIOSTEUM, *L.* *Fever-wort.*

PERFOLIATUM, *L.* *Perfoliate Triosteum.*

Shaded rocks and copses on deep soil. Little falls. Oneida county, *Knieskern.* Penn-Yan, *Sartwell.* Uncommon. May – July.

SAMBUCUS, *Tournefort.* *Elders.*

CANADENSIS, *L.* *Canadian Sambucus.*

Roadsides, fences, neglected fields. Common. June.

PUBENS, *Michx.* *Downy Sambucus.*

Borders of woods, thickets, ravines. Common. May.

VIBURNUM, *L.* *Arrow-woods. Viburna.*

NUDUM, *L.* *Withe-wood. Naked-cymed Viburnum.*

Swamps on the Mohawk flats. Common. June.

LENTAGO, *L.* *Bending-branched Viburnum.*

Open woods and banks of streams. Abundant. May.

DENTATUM, *L.* *Arrow-wood. Toothed-leaved Viburnum.*

Copses on the flats and banks of the Mohawk. Low lands about Onondaga lake. Frequent. June.

PUBESCENS, *Pursh.* *Downy Viburnum.*

Rocky banks of streams. Along the College brook, Schenectady, *Pearson.* Dexter, Jefferson county, *Vasey.* Borders of Crooked lake, *Sartwell in herb. Ham. Coll.* Banks of the Genesee below Rochester, *C. M. Booth.* Rare. June.

ACERIFOLIUM, *L.* *Maple-leaved Viburnum.*

Hilly woods. Common. May, June.

OPULUS, *L.* *Cranberry-tree. Opulus, Poplar-leaved Viburnum.*

River-banks. Shores of the Mohawk river, and in low grounds over the flats. Abundant. June.

LANTANOIDES, *Michaux.* *Hobblebush. Lantana, Wayfaring-tree-like Viburnum.*

Damp, sandy or hilly woods. Frequent in ravines and abundant on the hills: Graefenberg hill, Paris hill. In full force in the North woods, often so completely covering the ground as to render the forests impassable. May, June.

## RUBIACEÆ. *Madders.*

GALIUM, *L.* *Cleavers. Galia.*

APARINE, *L.* *The Ancient Aparine.*

Shaded swamps. Frequent. June.

ASPRELLUM, *Michx.* *Rough Galium.*

Wet meadows and low woods. Common on the flats of the Mohawk. July.

TRIFIDUM, *L.* *Three-parted-peduncled Galium.*

Cold grassy and mossy swamps. Summit lake, Otsego county. Mud lake, Hidden lake, and the State marsh, south Herkimer county. Spring bogs near Fish creek and Point of Rock. Rare.

var. TINCTORIUM, *Torr. & Gr.* *Dyer's Galium.*

Marshes. Abundant.

var. LATIFOLIUM, *Torr.* *Broad-leaved Galium.*

Borders of marshes and streams. Uncommon. June, July.

TRIFLORUM, *Michx.* *Fragrant-drying, Three-flowered Galium.*

Damp groves. Common. July.

PILOSUM, *Aiton.* *Hairy Galium.*

Dry sandy plains near Oneida lade, *Knieskern.* Junius, Seneca county, *Sartwell in herb. Ham. Coll.* Scarce. June, July.

CIRCÆZANS, *Michx.* *Circæa-like Galium.*

Copses, borders of dry woods. Frequent. June.

LANCEOLATUM, *Torr.* *Lanceolate-leaved Galium.*

Wooded banks. Uncommon. June, July.

BOREALE, *L.* *Northern Galium.*

Cliffs, rocks, river-banks. Valley of the Mohawk from Schenetady to Littlefalls. Fairfield, *Hadley in herb.* Banks of Oneida creek, *Knieskern.* Rocks of the Black river. Sometimes in swamps; West-Bergen, Genesee county. Frequent. June – August.

CEPHALANTHUS, *L.* *Button-bush.*

OCCIDENTALIS, *L.* *Western Cephalanthus.*

Muddy swamps, borders of ponds, lakes. Abundant in the northeastern part of the State. Mud lake, south Herkimer county. Mohawk valley: Littlefalls; Below Utica on the flats, around a pond; opposite Whitesboro, a swamp full. Black brook and Oneida lake. About Onondaga lake. Outlet of Owasco lake, *I. H. Hall.* Abundant. July.

MITCHELLA, *L.* *Partridge-berry.*

REPENS, *L.* *Creeping Mitchella.*

Woods. moist and shady places. Common. June, July.

OLDENLANDIA, *Plumier.* *Bluets. Oldenlandias.*

PURPUREA, *Gray.* *Purple-flowered Oldenlandia.*

var. LONGIFOLIA, *Gray.* *Long-leaved Oldenlandia.*

Rocks and dry soils. Otsego county, *H. Lathrop.* Rocky islands in Black river at Rutland, Jefferson county, *J. G. Crocker.* Gravelly sides of the river between Watertown and Sackett's-harbor. Scarce. May, June.

var. CILIOLATA, *Gray.* *Fringed-leaved Oldenlandia.*

Gravelly hillsides along the shore of Lake Ontario. Sackett's-harbor and banks of Black river, *Knieskern.* Abundant on the hill-slopes around the Old Fort at Oswego. Genesee falls, *Aiken in herb. Sartwell Ham. Coll.* Rochester, *C. Dewey.* May, June.

CÆRULEA, *Gray.* *Blue-flowered Oldenlandia.*

Damp places on the banks of Black river, from Remsen, *Miss J. E. Johnson,* to Watertown and Dexter. Otsego county, *H. Lathrop.* May – September.

## VALERIANACEÆ. *Valerians.*

VALERIANA, *Tournefort.*

SYLVATICA, *Banks.* *Woodland Valerian.*

Very abundant in a sphagnous swamp in Wayne county, near the shore of Lake Ontario, where it was discovered in 1833 by Dr. SARTWELL, *Gray in Rare plants of Northern and Western N.Y.* Wayne county, *Sartwell in herb. Ham. Coll.* Common in all parts of the swamp in West-Bergen, northwestern Genesee county. At this station the flowers are pure white always, both in the open marsh and its shady borders. Rare. June.

FEDIA, *Gœrtner.* *Corn Salad.*

*OLITORIA*, Vahl. *Garden Fedia.*

Cultivated grounds, roadsides. Scottsville, Monroe county, *L. Holzer.* Rare. May.

FAGOPYRUM, *Torr. & Gr.* *Buckwheat, Fagopyrum Fedia.*

Mohawk flats near Utica, *Gray.* Borders of a long narrow mud-pond below the city, on the north side of the river, once the bed of the stream. Rare. May.

## DIPSACEÆ. *Teasels.*

DIPSACUS, *Tournefort,* *Fuller's Thistles.*

*SYLVESTRIS*, Miller. *Wild Teasel. Wood Dipsacus.*

Roadsides. Common. July, August.

*FULLONUM*, Miller. *Fuller's Dipsacus.*

Escaped from cultivation. Schenectady, *Pearson.* Auburn and Skaneateles, *I. H. Hall.* July.

## COMPOSITÆ. *Composites.*

VERNONIA, *Schreber.* *Iron-weed.*

NOVEBORACENSIS, *Willd.* *New-York Vernonia.*

Low grounds and drained swamps. Tarrytown, *I. H. Hall.* Wayne county, *Sartwell in herb. Ham. Coll.* Rare. August, September.

EUPATORIUM, *Tournefort.* *Thoroughworts, Bonesets, Eupatoria.*

PURPUREUM, *L.* *Purple Eupatorium.*

Banks of streams; low thickets. Common. August.

HYSSOPIFOLIUM, *L.* *Hyssopus-leaved Eupatorium,*

Dry hillsides. Nyack, on the Hudson river, *I. H. Hall.* Rare. August.

TEUCRIFOLIUM, *Willd.* *Teucrium-leaved Eupatorium,*

Edges of low woods and swampy ground, near Tarrytown, *I. H. Hall.* Rare. August.

SESSILIFOLIUM, *L.* *Sessile-leaved Eupatorium,*

Wooded banks. Oneida county, *Gray in herb. Sartwell Ham. Coll.* Rare. August.

PERFOLIATUM, *L.* *Common Boneset. Connate-leaved Eupatorium.*

Open swamps and grassy bottoms of ravines. Common. July, August.

AGERATOIDES, *L.* *Ageratum-like Eupatorium.*

Woods, streams. Common. August – October.

MIKANIA, *Willd.* — *Climbing Hemp-weed.*

SCANDENS, *L.* — *Ascending Mikania.*

Shaded swamps. Sleepy-hollow stream, Tarrytown, *I.H.Hall.* Low grounds near Oneida lake, *Knieskern.* Marshes around Onondaga lake.
Infrequent. July – September.

NARDOSMIA, *Cassini.* — *Sweet Coltsfoot.*

PALMATA, *Hooker.* — *Hand-leaved Nardosmia.*

Cold swamps. Near Saratoga, *Dr. Steele, Torrey & Gray Fl., Prof. Hitchcock, Torrey Fl. N.Y.* Dundee, N.Y., *Wright in herb. Sartwell Ham. Coll.* Valley of the Genesee river between Rochester and Lake Ontario, in a cleared swamp, *C. M. Booth.*
Rare. May.

TUSSILAGO, *Tournefort.* — *Common Coltsfoot.*

FARFARA, *L.* — *From the ancient Farfarus. River-side Tussilago.*

Brooksides at the crossing of roads; flats of creeks; far up ravines in woods.
Common. April.

SERICOCARPUS, *Nees von Esenbeck.* — *White-topped Aster.*

CONYZOIDES, *Nees.* — *Conyza-like Sericocarpus.*

Copses, wooded hillsides. Infrequent. July, August.

ASTER, *L.* — *Starworts. Asters.*

CORYMBOSUS, *Aiton.* — *Corymbed Aster.*

Borders of woods. Common. July, August.

MACROPHYLLUS, *L.* — *Large-leaved Aster.*

Damp shaded banks. Abundant. August – October.

PATENS, *Aiton.* — *Spreading Aster.*

Dry hillsides. Frequent.

var. PHLOGIFOLIUS, *Torr. & Gr.* — *Phlox-leaved Aster.*

Shaded hillsides. Common at Tarrytown, *I.H.Hall.* Schenectady, *Pearson.*
Infrequent.

LÆVIS, *L.* — *Smooth Aster.*

Thickets. Banks of the east side of Onondaga lake. Occasional.

var. LÆVIGATUS, *Torr. & Gr.* — *Smooth-stemmed Aster.*

Copses. Yates county, *Sartwell in herb. Ham. Coll.* Frequent.

var. CYANEUS, *Torr. & Gr.* — *Azure Aster.*

Open woods. Tarrytown, common, *I. H. Hall.* Penn-Yan. *Sartwell in herb. Ham. Coll.* Abundant.

UNDULATUS, *L.* — *Wavy-leaved Aster.*

Dry woodlands. Common.

CORDIFOLIUS, *L.* — *Heart-leaved Aster.*

Shaded hillsides. Common.

SAGITTIFOLIUS, *Willd.* — *Arrow-leaved Aster.*

Open banks. Auburn, common, *I. H. Hall.* Yates county, *Sartwell in herb. Ham. Coll.* Abundant.

ERICOIDES, *L.* — *Heath-like Aster.*

Roadsides; neglected, cleared land. Common.

MULTIFLORUS, *Aiton.* *Many-flowered Aster*
Barren fields, dry hills, Abundant.

DUMOSUS, *L.* *Bushy Aster.*
Copses, banks, along water-courses. Frequent.

TRADESCANTI, *L.* TRADESCANT'S *Aster.*
Streams and damp woods. Tarrytown, *I. H. Hall.* Schenectady, *Pearson.* Abundant.

MISER, *L.* *Deficient-flowered Aster.*
Thickets, waste-places. Common.

var. GLOMERELLUS, *Torr. & Gr.* *Glomerate-spiked-flowered Aster.*
Yates county, *Sartwell in herb. Ham. Coll.*

var. DIFFUSUS, *Torr. & Gr.* *Diffuse-branched Aster.*
Yates county, *Sartwell in herb. Ham. Coll.*
A depauperate form of this variety abounds on the cold wet cliffs of Fish creek.

var. HIRSUTICAULIS, *Torr. & Gr.* *Hirsute-stemmed Aster.*
Albany, *Beck, Torrey & Gray Fl.* Wayne county, *Sartwell, Torr. & Gr. Fl. in herb. Ham. Coll.*

SIMPLEX, *Willd.* *Simple-stemmed Aster.*
Ravines and shady swamps. Often.

CARNEUS, *Nees von Esenbeck.* *Flesh-colored Aster.*
Low grounds. Yates county, *Sartwell in herb. Ham. Coll.*
The old form A. GREENII, *Torrey & Gray*, between North and South Colleges, Schenectady, *Tuckerman, Pearson.* Rare.

LONGIFOLIUS, *Lamarck.* *Long-leaved Aster.*
Low woods on islands in the Pocantico above Tarrytown, *I. H. Hall.* Jefferson county, *Crawe in herb. Sartwell Ham. Coll.* Rare.

PUNICEUS, *L.* *Purple-stemmed Aster.*
Low grounds. Common.

var. VIMINEUS, *Torr. & Gr.* *Slender-stemmed Aster.*
Deep woods and swamps. Frequent.

PRENANTHOIDES, *Muhl.* *Prenanthes-like Aster.*
Damp rich woods. Common in Oneida county, *Gray.* Western part of the State, *Torrey & Gr. Fl.; Knieskern and Sartwell, Torrey Fl. N.Y.* Watertown, *Crawe;* Dundee, Yates county, *Wright;* Penn-Yan, *Sartwell; in herb. Ham. Coll.* Abundant.

NOVÆ-ANGLIÆ, *L.* *New-England Aster.*
Roadsides, streams, open swamps. Common.

ACUMINATUS, *Michx.* *Acuminate-leaved Aster.*
Rocks, ravines and hills, in moisture and shade. Abundant.

PTARMICOIDES, *Torr. & Gr.* *Ptarmica-like Aster.*
On the rocky banks of Black river, near Watertown, Jefferson county, where it is very abundant, and was first noticed by Dr. CRAWE, *Gray in Rare plants of Northern N.Y.* Rocky banks of the river at Watertown, near the bridge of the road to Dexter, *Gray.* Jefferson county, *Crawe in herb. Ham. Coll.* Banks of Genesee river below Rochester, *C. M. Booth.* Rare. August.

ERIGERON, *L.* — *Fleabanes.*

CANADENSE, *L.* — *Canadian Erigeron*
Roadsides, waste places; a field weed. Common. July – September.

BELLIDIFOLIUM, *Muhl.* — *Daisy, Bellis-leaved Erigeron.*
Rocky hillsides and edges of thickets. Infrequent. May.

PHILADELPHICUM, *L.* — *Philadelphia Erigeron.*
Borders of woods, swamps; wet rocks. Common. June, July.

ANNUUM, *Persoon.* — *Annual Erigeron.*
Waysides, waste-places. Common. June – August.

STRIGOSUM, *Muhl.* — *Hairy Erigeron.*
Neglected fields, poor meadows. Common. June, July.

DIPLOPAPPUS, *Cassini.* — *Double-bristled Asters.*

LINARIIFOLIUS, *Hooker.* — *Linaria-leaved Diplopappus.*
Rocky, gravelly or sandy soils. Schenectady, *Pearson, Gray.* Infrequent. August – October.

UMBELLATUS, *Torr. & Gr.* — *Umbelled Diplopappus.*
Open swamps. Abundant, especially on the hills. August, September.

AMYGDALINUS, *Torr. & Gr.* — *Almond-leaved Diplopappus.*
Marshes. Gorham, Ontario county, *Sartwell.* Dundee. Yates county, *Wright, Vasey.* Rare. August.

CORNIFOLIUS, *Darlington.* — *Cornus-leaved Diplopappus.*
Open woods. Oswego, *Knieskern in herb. Sartwell Ham. Coll.* Rare. July – September.

SOLIDAGO, *L.* — *Goldenrods.*

SQUARROSA, *Muhl.* — *Squarrose-involucred Solidago.*
Dry rocky soil and woods. Abundant at Alexandria bay, *G. W. Clinton.* Penn-Yan, *Sartwell.* Mount Hope and banks of the Genesee below Rochester, *C. M. Booth.* Rare.

BICOLOR, *L.* — *Silver-rod. Two-colored Solidago.*
Hillsides and barren sandy copses. Abundant.

LATIFOLIA, *L.* — *Broad-leaved Solidago.*
Shaded rocks and banks. Common.

CÆSIA, *L.* — *Gray-purple-stemmed Solidago.*
Wooded hills, thickets. Frequent.

PUBERULA, *Nuttall.* — *Downy Solidago.*
Top of a high hill near Tarrytown, *I. H. Hall.* Rare.

STRICTA, *Aiton.* — *Willow-leaved, Wand-like Solidago.*
Sphagnum swamps. Oneida county, *Gray, Torrey Fl. N.Y.* Abundant in the swamp on Paris hill. Rare. July.

SPECIOSA, *Nuttall.* — *Showy Solidago.*
var. ANGUSTATA, *Torr. & Gr.*, or a depauperate form, on the sides and summit of Bald rock, near Third lake, north Herkimer county. Rare. August.

OHIOENSIS, *Riddell.* — *Ohio Solidago.*
Low lands. Yates county, *Sartwell in herb. Ham. Coll.* In various parts of Western N.Y., *Knieskern, Sartwell, G. W. Clinton, Torr. & Gr. Fl.* Rare.

HOUGHTONII, *Torrey & Gray.* *Discovered by* HOUGHTON.

Damp moss and marl bogs of the swamp in West-Bergen, Genesee county; in company with a number of lake shore plants, *Comandra livida, Juniperus sabina, Juncus balticus, Scirpus torreyi,* and others.

Leaves sheathing opposite sides of the stem at its base, rigid, narrow, ciliate, all clasping, two to six inches in length, deep green; stems slender, purple; heads large, rays sometimes spreading three-fourths of an inch, in a drooping corymb. A peculiar and beautiful plant. Rare. July.

NEGLECTA, *Torr. & Gr.* *Unnoticed Solidago.*

Marshes. Bethel, Ontario county, *Sartwell in herb. Ham. Coll.* Uncommon.

PATULA, *Muhl.* *Spreading Solidago.*

Swamps. Common.

ARGUTA, *Aiton.* *Sharp-serrated-leaved Solidago.*

Borders of woods and fields. Frequent.

var. JUNCEA, *Torr. & Gr.* *Reed-like Solidago.*

Schenectady, *Pearson.* Frequent.

MUHLENBERGII, *Torr. & Gr.* *Discovered by* MUHLENBERG.

Bogs, shaded wet bottoms. Schenectady, *Pearson.* Penn-Yan, *Sartwell in herb. Ham. Coll.* Rare.

LINOIDES, *Solander.* *Linum-like Solidago.*

Marshes, sphagnum swamps. Junius, Seneca county, *Sartwell in herb. Ham. Coll.* Rare.

ALTISSIMA, *L.* *High Solidago.*

Along fences, bottoms of ravines. Common.

ULMIFOLIA, *Muhl.* *Elm-leaved Solidago.*

Thickets, river-sides. Frequent.

ODORA, *Aiton.* *Sweet Goldenrod. Fragrant Solidago.*

Open woods, hillsides. The earliest one in blossom, *Knieskern.* Rocky banks of Seneca lake, *Vasey.* Uncommon.

NEMORALIS, *Aiton.* *Hoary Goldenrod. Woodland Solidago.*

Barren soils. Common.

CANADENSIS, *L.* *Canadian Solidago.*

Roadsides, fences. Everywhere without limit.

var. PROCERA, *Torr. & Gr.* *Towering Solidago.*

Walls, banks, hills. Common.

SEROTINA, *Aiton.* *Late-flowering Solidago.*

Ravine-sides and thickets along streams. Frequent.

GIGANTEA, *Aiton.* *Giant Solidago.*

Meadow-fences, open bottoms of ravines. Common.

LANCEOLATA, *L.* *Bushy Goldenrod. Narrow-leaved Solidago.*

Flats and banks of the Mohawk. Abundant.

INULA, *L.* *Enula Campana. Common Elecampane.*

*HELENIUM,* L. *The Ancient Helenion.*

Roadsides, extensively naturalized. July, August.

POLYMNIA, *L.* — *Leafcups.*

CANADENSIS, *L.* — *Canadian Polymnia.*

Shaded rocky sides of streams. About Vernon, *J. S. Douglass, Knieskern.* Ravine of Chittenango creek, below the falls. Hackney falls, Owasco lake outlet, *I. H. Hall.* Gorham, Ontario county, *Sartwell in herb. Ham. Coll.* Rare. July – September.

UVEDALIA, *L.* — *In honor of* ROBERT UVEDALE.

Deep ravine of Chittenango creek, at the water side. Borders of Seneca lake, *Sartwell in herb. Ham. Coll.* Rare. August, September.

AMBROSIA, *Tournefort.* — *Ragweed. Wormwood.*

TRIFIDA, *L.* — *Three-parted-leaved Ambrosia.*

Forming thickets along the banks of the Mohawk. Common. July, August.

ARTEMISIÆFOLIA, *L.* — *Artemisia-leaved Ambrosia.*

Waysides, waste places. Common. July – September.

XANTHIUM, *Tournefort.* — *Cockleburs.*

STRUMARIUM, *L.* — *Struma-healing Xanthium.*

Yards, streets, waste grounds. Abundant on the low banks of the Mohawk. Common. August.

*SPINOSUM*, L. — *Thorny Xanthium.*

Around the Dexter factories, *Knieskern.* Hab. Oriskany, but rare, *P. D. K. in herb. Sartwell Ham. Coll.* August – October.

HELIOPSIS, *Persoon.* — *False Sunflower.*

LÆVIS, *Pers.* — *Smooth Heliopsis.*

Marshes and streams. Common. August – October.

RUDBECKIA, *L.* — *Coneflowers.*

LACINIATA, *L.* — *Deeply-parted-leaved Rudbeckia.*

Bottoms of ravines, creeks, rivers. Common. July – September.

FULGIDA, *Aiton.* — *Fulgent Rudbeckia.*

Meadows, occasionally, but not permanent. July, August.

HIRTA, *L.* — *Rough Rudbeckia.*

Pastures, meadows and their borders. Common. June, July.

HELIANTHUS, *L.* — *Sunflowers.*

GIGANTEUS, *L.* — *Gigantic Helianthus.*

Low river-banks and marshes of lakes. Frequent. August, September.

STRUMOSUS, *L.* — *Tubercled-stemmed Helianthus.*

Thickets on hillsides and river-banks. Abundant.

var. MOLLIS, *Torr. & Gr.* — *Downy-leaved Helianthus.*

Penn-Yan, *Sartwell.* Greece, sides of Genesee river, *Bradley.*

DIVARICATUS, *L.* — *Divergent Helianthus.*

Open woods. Common.

DECAPETALUS, *L.* — *Ten-rayed Helianthus.*

Ravine-sides and bottoms. Infrequent.

var. FRONDOSUS, *Torr. & Gr.* — *Leafy-involucred Helianthus.*

Shady stream-sides. Uncommon.

*TUBEROSUS*, L. *Artichoke. Tuberous Helianthus.*
Walls and fences. Occasional.

ACTINOMERIS, *Nuttall.* *Actinomeris.*
SQUARROSA, *Nutt.* *Squarrose-involucred Actinomeris.*
Borders of Crooked lake, Yates county, *Sartwell in herb. Ham. Coll.* Western New-York, *Torrey & Gray Fl.* Rare. August, September.

BIDENS, *L.* *Bur-marigolds.*
FRONDOSA, *L.* *Leafy Bidens.*
Walls, yards, waste places. Common. July – September.

CONNATA, *Muhl.* *Connate-leaved Bidens.*
Ditches, brooks. Uncommon.

CERNUA, *L.* *Nodding Bidens.*
Swamps. Frequent.

CHRYSANTHEMOIDES, *Michx.* *Chrysanthemum-like Bidens.*
Marshes, borders of streams. Abundant.

BECKII, *Torrey.* *Discovered by* L. C. BECK.
Sander's lake, Scotia, where it was discovered by Dr. BECK, *Pearson.* Canaderaga lake, *Miss S. Cooper:* outlet of Schuyler's lake, *Gray.* Southern part of Oneida county *Crawe, Knieskern.* Ponds near Augusta, *J. S. Douglass, Torrey Fl. N.Y.* Oswego falls, *Aiken in herb. Sartwell Ham. Coll.* Sodus bay, *Eaton bot.* Rare. July, August.

BIPINNATA, *L.* *Bipinnate Bidens.*
Bordering gardens and fields. Seneca lake, *Sartwell.* Scarce.

HELENIUM, *L.* *Helenium.*
AUTUMNALE, *L.* *Autumnal Helenium.*
Flats of brooks and creeks. Common. September.

MARUTA, *Cassini.* *Mayweed.*
*COTULA*, DC. *Cup-involucred Maruta.*
Waste places, everywhere. June – September.

ANTHEMIS, *L.* *Camomile.*
*ARVENSIS*, L. *Field Anthemis.*
Cultivated land and neglected fields. Schenectady, *Pearson.* Sandy cleared grounds at the head of Oneida lake. Penn-Yan, *Sartwell in herb. Ham. Coll.* Rare. June, July.

ACHILLEA, *L.* *Yarrow.*
MILLEFOLIUM, *L.* *Milfoil Achillea.*
Roadsides, pastures, barren hillsides. On the rocks of Little-falls probably, and along the cliffs of Fish creek doubtless it is native. In the latter habitat, it abounds over the precipices from clefts of rock, in moist soil of ledges and near dripping water or falling streams; far up the creek, for many miles among the woods, above any means of introduction. Common.

var. ROSEA. Penn-Yan, *Sartwell in herb. Ham. Coll.* June – September.

LEUCANTHEMUM, *Tournefort.* *Oxeye Daisy.*
*VULGARE*, Lamarck. *Common Whiteweed.*
Meadows, pastures, roadsides. Common. June, July.

TANACETUM, *L.* — *Tansy.*

*VULGARE*, L. — *Common Tanacetum.*

Way-sides, fences, in patches. Common. July – September.

ARTEMISIA, *L.* — *Wormwoods.*

CANADENSIS, *Michx.* — *Canadian Artemisia.*

Sandy shores of lakes. Legit. Oneida county, *Knieskern in herb. Sartwell Ham. Coll.* Along Irondequoit bay, *L. Holzer.* Shore of Lake Ontario, Greece, *Bradley.* Rare. July, August.

*VULGARIS*, L. — *Mugwort. Common Artemisia.*

Roadsides in Verona, rare, *Knieskern.* August – November.

*ABSINTHIUM*, L. — *Wormwood. The ancient Absinthion.*

Roadsides. Naturalized in the northern part of the county, *Knieskern.* Waysides on the hills of Litchfield, east of Hidden lake, south Herkimer county. Infrequent. August.

GNAPHALIUM, *L.* — *Everlastings.*

DECURRENS, *Ives.* — *Decurrent-leaved Gnaphalium.*

Old pastures, uncultivated cleared hills. Common. August – October.

POLYCEPHALUM, *Michx.* — *Many-headed Gnaphalium.*

Sandy fields and open woods. Pine plains of Rome, *Knieskern.* Schenectady, *Pearson.* Penn-Yan, *Sartwell.* Uncommon.

ULIGINOSUM, *L.* — *Bog Gnaphalium.*

Roadsides, ditches, low grounds. Common.

ANTENNARIA, *Gærtner.* — *Everlastings.*

MARGARITACEA, *R. Brown.* — *Pearly Antennaria.*

Roadsides, pastures, copses. Common. August.

PLANTAGINIFOLIA, *Hooker.* — *Plantain-leaved Antennaria.*

Tops of ravine-banks, dry pastures. Common. April, May.

ERECHTHITES, *Rafinesque.* — *Fireweed.*

HIERACIFOLIA, *Raf.* — *Hieracium-leaved Erechthites.*

Damp woods, clearings; most common after fire. July – September.

CACALIA, *L.* — *Indian Plantains.*

SUAVEOLENS, *L.* — *Fragrant Cacalia.*

Woodlands. Penfield, Monroe county, banks of a stream emptying into Irondequoit bay, *L. Holzer.* Greece, *Bradley.* Avon, Livingston county, *B. D. Greene, Torrey & Gray Fl.* Rare. August – October.

ATRIPLICIFOLIA, *L.* — *Atriplex-leaved Cacalia.*

Deep woods. Genesee river, *Sartwell in herb. Ham. Coll.* Near Rochester, *Z. H. Harris, Bradley.* Rare. July – September.

SENECIO, *L.* — *Groundsel.*

*VULGARIS*, L. — *Common Senecio.*

Common on the Central railroad. Streets and gardens, Utica. Rochester. July – October.

AUREUS, *L.* — *Golden Senecio.*

Wet meadows, swampy woods. Common. May.

var. OBOVATUS, *Torr. & Gr.* — *Obovate-leaved Senecio.*

Shaded steeps between the top of the cliffs and the brow of the heights, at Littlefalls, south side of the Mohawk. Yates county, *Sartwell.*
Infrequent. June.

var. BALSAMITÆ, *Torr. & Gr.* — *Balsamita Senecio.*

Rocky banks of Black river opposite and below Watertown, Jefferson county. Abundant in the swamp of West-Bergen, Genesee county, where the whole plant is often very woolly. Rare. June.

var. LANCEOLATUS, *Oakes.* — *Long-leaved Senecio.*

Bald rock near Third lake, north Herkimer county, in wet woods along its base. Rare. June, July.

CNICUS, *Vaillant.* — *Blessed Thistle.*

*BENEDICTUS*, L. — *Reputed Cnicus.*

Roadsides and about houses. Schenectady, *Pearson.* Oneida county, *Knieskern.* Rare. June.

CIRSIUM, *Tournefort.* — *Common Thistles.*

*LANCEOLATUM*, Scopoli. — *Lanceolate-leaved Cirsium.*

Pastures, roadsides. Common. June – September.

DISCOLOR, *Sprengel.* — *Two-colored Cirsium.*

Borders of woods and fields. Schenectady, *Pearson.* Meadows of the Mohawk between Littlefalls and Palatine bridge. Oneida county, *Knieskern.* Yates county, *Sartwell in herb. Ham. Coll.* Infrequent. August.

MUTICUM, *Michx.* — *Awnless Cirsium.*

Swamps, marshes, springy hillsides. Common. August – October.

PUMILUM, *Sprengel.* — *Dwarf Cirsium.*

Old pastures, uncultivated sandy fields. Schenectady, *Pearson.* Otsego county, *H. Lathrop.* Yates county, *Sartwell in herb. Ham. Coll.*
Uncommon. July, August.

*ARVENSE*, Scopoli. — *Canada Thistle. Field Cirsium.*

Roadsides, cultivated fields. Common. Flowers white frequently.
July – September.

ONOPORDON, *Vaillant.* — *Cotton Thistle.*

*ACANTHIUM*, L. — *The ancient Acanthion.*

Waysides, rocky banks. Fairfield, Herkimer county, *in herb. Hadley.* About Rochester and toward the Lake, *C. M. Booth.* Scarce. July – September.

LAPPA, *Tournefort.* — *Burdock.*

*MAJOR*, Gærtner. — *Larger Lappa.*

Waste places. Common. July – October.

CICHORIUM, *Tournefort.* — *Cichory.*

*INTYBUS*, L. — *The classical Intubus.*

Roadsides. Abundant in West-Albany, along the Central railroad. Willow vale, New-Hartford. Verona, *Knieskern.* Scarce. July – October.

KRIGIA, *Schreber.* — *Dwarf Dandelion.*

VIRGINICA, *Willd.* — *Virginian Krigia.*

Dry sandy fields near Oneida lake, *Knieskern.* Rare. May – August.

HIERACIUM, *Tournefort.* — *Hawkweeds. Hieracia.*

CANADENSE, *Michx.* — *Canadian Hieracium.*
Open hilly woods. Frequent. August.

SCABRUM, *Michx.* — *Rough Hieracium.*
Borders of thickets and fields. Common. August.

GRONOVII, *L.* — *In honor of* GRONOVIUS.
Dry woods. Schenectady, *Pearson.* Near Oneida lake, *Knieskern.* Auburn, *I. H. Hall.* Infrequent. July, August.

VENOSUM, *L.* — *Veined-leaved Hieracium.*
Sandy copses and evergreen woods. Schenectady. Common on the Pine plains of Rome. Abundant in Yates county, *Sartwell.* Greece, *Bradley.* Frequent. June, July.

PANICULATUM, *L.* — *Panicled Hieracium.*
Copses, shady banks. Common at Schenectady, *Pearson.* Oneida county, *Knieskern.* North of Oswego on the Lake shore. Auburn, *I. H. Hall.* Yates county, *Sartwell in herb. Ham. Coll.* Greece, Monroe county, *Bradley.* Abundant. August, September.

NABALUS, *Cassini.* — *Rattlesnake-roots.*

ALBUS, *Hooker.* — *White Nabalus.*
Woods. Common. July, August.

ALTISSIMUS, *Hooker.* — *Lofty Nabalus.*
Deep ravines. Frequent.

var. CORDATUS, *Torr. & Gr.* — *Cordate-leaved Nabalus.*
Greece, Monroe county, *Bradley.*

var. DELTOIDEUS, *Torr. & Gr.* — *Deltoid-leaved Nabalus.*
Penn-Yan, Yates county, *Sartwell in herb. Ham. Coll.* August, September.

TARAXACUM, *Haller.* — *Dandelion.*

DENS-LEONIS, *Desfontaines.* — *Lion-tooth-leaved Taraxacum.*
In all grass lands. April – October.

LACTUCA, *Tournefort.* — *Wild Lettuce.*

ELONGATA, *Muhl.* — *Long-panicled Lactuca.*
Open woods, thickets, along fences. Common. July, August.

MULGEDIUM, *Cassini.* — *False Lettuce.*

LEUCOPHÆUM, *DC.* — *Gray Mulgedium.*
Moist woods, river-banks. Frequent. August, September.

SONCHUS, *L.*

*OLERACEUS*, L. — *Garden Sonchus.*
Borders of cultivated grounds. Common. July – September.

*ASPER*, Villars. — *Spiny-leaved Sonchus.*
Waste places, barnyards. Common. August, September.

*ARVENSIS*, L. — *Field Sonchus.*
Fields and water-sides. Oriskany, near the creek. Marshes on the west side of Onondaga lake. Waste fields, Auburn, *I. H. Hall.* Roadsides near Rochester, *L. Holzer.* Scarce. August – October.

## LOBELIACEÆ. *Lobelias.*

LOBELIA, *L.* *Lobelias.*

CARDINALIS, *L.* *Crimson, Cardinal-flowered Lobelia.*

Boggy woods, water-sides. Abundant. July, August.

SYPHILITICA, *L.* *Blue, Large-flowered Lobelia.*

Damp grassy woods, swampy rivulets. Abundant. August.

INFLATA, *L.* *Indian Tobacco. Inflated-fruited Lobelia.*

Meadows, pastures. Common. July – September.

SPICATA, *Lamarck.* *Spike-racemed Lobelia.*

Hillsides and open woods. Scarce. July, August.

KALMII, *L.* KALM'S *Lobelia.*

Limestone rocks, marl swamps. Frequent on wet rocks in the cliffs above Trenton falls, where it occurs in the regular form.

A larger plant, with all manner of variations, abounds in the limestone country south of Utica, beyond the hills around Cedar lake, on Hidden lake, the State marsh near Jerusalem hill, and Mud lake, southeastern Herkimer county.

Swamp at the foot of Owasco lake, *I. H. Hall.* Junius, *Sartwell in herb. Ham. Coll.* Banks of Genesee river, *C. M. Booth.* Rare. July – September.

DORTMANNA, *L.* *Water Lobelia. Dedicated to* DORTMANN.

Sandy or gravelly bottoms along the borders of all the ponds and lakes in the north woods : abundant there. Rare. July – September.

## CAMPANULACEÆ. *Campanulas.*

CAMPANULA, *Tournefort.* *Bellflowers.*

ROTUNDIFOLIA, *L.* *Round-root-leaved Campanula.*

Rocks, cliffs. Sandy banks between Albany and Schenectady Little falls. Trenton falls. Fish creek precipices. Chittenango creek cliffs. Ithaca, Tompkins county, *Sartwell in herb. Ham. Coll.*

Abundant where it occurs. July – October.

APARINOIDES, *Pursh.* *Galium, Aparine-like Campanula.*

Grassy swamps and shores. Ballston lake, *Pearson.* Fairfield, *in herb. Hadley.* Oriskany thickets and swamps, *Knieskern.* Around Mud lake and the State marsh near Jerusalem hill, south Herkimer county. Near Crooked lake, *Sartwell.* Scarce. July – September.

AMERICANA, *L.* *American Campanula.*

Low rich woods. Chemung valley, *Knieskern, Torrey Fl N.Y.* In the vicinity of Seneca and Crooked lakes, *Sartwell in herb. Ham. Coll.*

Rare. July – September.

SPECULARIA, *Heister.* *Venus's Looking-glass.*

PERFOLIATA, *A. DC.* *Perfoliate Specularia.*

Gravelly hills and banks. Schenectady, *Pearson* Sandy fields near Oneida lake, *Knieskern.* Infrequent. May – July.

## ERICACEÆ. *Heaths.*

GAYLUSSACIA, *H. B. K.* *Whortleberries.*

RESINOSA, *Torr. & Gr.* *Resinous Gaylussacia.*

Swamps, sands and rocks. Most abundant on the low sand plains of Rome, and the Thousand Islands of the St.Lawrence. Frequent. May, June.

VACCINIUM, *L.* *Cranberries. Blueberries.*

OXYCOCCUS, *L.* *Small Cranberry. Tart-fruited Vaccinium.*

Sphagnum swamps. Summit lake, Otsego county; Mud lake, Hidden lake, State marsh, Frankfort hill ponds, Herkimer county. Oriskany swamp; Paris hill; and abundant in the mossy marshes of the northwestern part of the county and the north woods. Frequent. June.

MACROCARPON, *Aiton. Common Cranberry. Large-fruited Vaccinium.*

Cranberry swamps, margins of ponds. Mud lake, Graefenberg hill Hidden lake, south Herkimer county. Common in the Rome swamps; west of Fort Bull; head of Oneida lake. Abundant. June, July.

STAMINEUM, *L.* *Deerberry. Long-stamened Vaccinium.*

Borders of woods. Abundant in the dry plains and pine woods of Schenectady county. I have seen Oneida county specimens, but not growing. *Knieskern.* Frequent in Yates county, *Sartwell.* Rare. June.

PENNSYLVANICUM, *Lamarck.* *Blueberry. Dwarf Vaccinium.*

Sandy fields, hillsides and rocks. The most common species. May.

CANADENSE, *Kalm.* *Downy Vaccinium.*

Cold cedar swamps. Mud lake, and the State marsh of Herkimer county. Bridgewater, *Gray.* Below Utica, in arbor-vitæ swamps on the flats of the Mohawk. Beyond Rome, on borders of deep sphagnum bogs. Rare. June.

VACILLANS, *Solander.* *Wavy-leaved Vaccinium.*

Borders of sphagnum swales. At Rome, common in open woods and sandy plains.

Near Oriskany, Dr. KNIESKERN found a var. with small lanceolate-elliptical leaves, *Torrey Fl. N.Y.* Infrequent. May.

CORYMBOSUM, *L.* *Corymbed Vaccinium.*

Swamps and low open woods. Common.

var. ATROCOCCUM, *Gray.* *Black-fruited Vaccinium.*

Borders of woods around bear pond on Frankfort hill. May, June.

CHIOGENES, *Salisbury.* *Creeping Snowberry.*

HISPIDULA, *Torr. & Gr.* *Hispidulous Chiogenes.*

Mossy swamps. under cedars and tamaracks; but on the hills and in the northern part of the county, it abounds in the soil of woods and rocky banks. Frequent. May.

CALLUNA, *Salisbury.* *Heath. Ling.*

VULGARIS, *Salisb.* *Common Calluna.*

Plants from Tewksbury, Mass., have been stationed on the sand plains of Rome; and in the north woods of Herkimer county, on a barren knoll in the beaver meadow beyond Bald rock, north of the Eight lakes, where they ought to flourish and multiply. July – November.

ARCTOSTAPHYLOS, *Adanson.*

UVA-URSI, *Sprengel.* *Bearberry.*

Sandy plains between Albany and Schenectady, *H. Seymour.* Dry sandy hills, pine plains north of New-London, *Knieskern.* Near Oneida lake, *Gray.* On the Thousand islands of the St. Lawrence at Alexandria bay. Rare. May.

EPIGÆA, *L.* *Trailing Arbutus.*

REPENS, *L.* *Creeping Epigæa.*

Sandy banks and open woods. Between Albany and Schenectady. Otsego county, *Miss S. Cooper: B. D. Gilbert.* Common on the sands of Rome, completely covering knolls in the swamps, and abundant throughout the dry pine plains. Northern Oneida and Lewis counties, *H. Seymour.*

Frequent. April, May.

GAULTHERIA, *Kalm.* *Wintergreen.*

PROCUMBENS, *L.* *Creeping Gaultheria.*

Sandy woods, swamps, banks. Common. July.

CASSANDRA, *Don.* *Leatherleaf.*

CALYCULATA, *Don.* *Bracted-calyxed Cassandra.*

Peat bogs, borders of ponds. Abundant. April.

ANDROMEDA, *L.* *Andromedas.*

POLIFOLIA, *L.* *Polium-leaved Andromeda.*

Sphagnum swamps. Bogs in the sand plains and on the Rotterdam hills of Schenectady county. Summit lake, Otsego county. Mud lake, State marsh, Hidden lake, Frankfort and Graefenberg hills, Herkimer county. South-Trenton; Paris hill; bogs on the pine plains of Rome; around Point of Rock lake. Abundant in the lake marshes of the north woods. Frequent May.

LIGUSTRINA, *Muhlenberg.* *Ligustrum-like Andromeda.*

Low grounds, borders of woods. A mile or two northeast of Schenectady, and abundant in bushy swamps on the Rotterdam hills. Southern counties, *Knieskern in herb. Sartwell Ham. Coll.* Rare. July.

KALMIA, *L.* *American Laurels.*

LATIFOLIA, *L.* *Broad-leaved Kalmia.*

Rocky hillsides near Leatherstocking's Cave, east of Otsego lake, *Misses Bowen.* Arbor-vitæ swamps on the flats of the Mohawk, between Utica and Frankfort; southwest of Utica, near the Chenango canal. Near Oriskany, *Knieskern.* Head of Crooked lake, *Sartwell.* Ithaca, Tompkins county, *Bradley.* Rare. June.

ANGUSTIFOLIA, *L.* *Narrow-leaved Kalmia.*

Sandy plains and swamps. Schenectady, *Pearson.* Oriskany, *Knieskern.* Abundant throughout the plains of Rome. Junius, Seneca county, *Sartwell in herb. Ham. Coll.* Ithaca, Tompkins county, *Bradley.*

Frequent. June, July.

GLAUCA, *Aiton.* *Glaucous-leaved Kalmia.*

Sphagnum swamps and lake marshes. Charlton, Schenectady county, *Jackson.* Otsego county, *H. Lathrop.* South-Trenton. Oriskany swamp formerly, *Gray.* Abundant in the open swamps of Rome. Level mossy border around Point of Rock lake, northwestern part of the county. Northeastern Oneida county, *H. Seymour.* Common in the low borders of ponds and lakes in the north woods. Rare. May.

AZALEA, *L.* *Wild Azaleas.*

VISCOSA, *L.* *Clammy Azalea.*

Borders of low woods, bushy swamps. Halfway between Schenectady and Albany, *Pearson.* Near Boonville, *Knieskern.* Rare. June.

NUDIFLORA, *L.* *Leafless-flowering Azalea.*

Swamps and their borders; woods and dry hillsides. Rotterdam hills, Schenectady county. Otsego county, *Miss S. Cooper.* Frankfort and Graefenberg swamps. Whitesboro, *J. S. Gardner.* Common in southern Oneida county and southward, *Gray.* Around the South-Trenton sphagnum swale. Abundant in the low plains of Rome. Rocky banks of the Black river below Watertown. Abundant. May.

RHODODENDRON, *L.* *Mountain Laurel.*

MAXIMUM, *L.* *Greatest Rhododendron.*

Swamps, sides of streams. Mohawk valley, Schenectady, *Pearson :* west of Oriskany, *Vasey.* Oriskany valley, a mile or two southeast of Clark's mills. Unadilla valley, four miles below Bridgewater, *Gray.* Italy hill. Yates county, *Sartwell.* Rare. July.

LEDUM, *L.* *Labrador Tea.*

LATIFOLIUM, *Aiton.* *Broad-leaved Ledum.*

Swamps on the hills. Cedar swamp adjoining Mud lake; around Wetmore's sphagnum pond, Frankfort hill, Herkimer county. Abundant in the Paris hill swamp. Wooded swamps beyond Rome. Common in the north woods, at the edges of ponds, lakes, and far up their banks into the forests. Scarce. May.

PYROLA, *L.* *Pyrolas.*

ROTUNDIFOLIA, *L.* *Round-leaved Pyrola.*

Rich woods. Common. June, July.

var. ASARIFOLIA, *Torr. & Gr.* *Asarum-leaved Pyrola.*

Sandy hills. Near Utica. Yates county, *Sartwell.* Infrequent.

ULIGINOSA, *Torr. & Gr.* *Swamp Pyrola.*

Cold swamps. Very abundant in the marshes near Summit lake at the top of the hill south of the Mohawk, source of Otsquago creek and the Susquehanna river; where it often covers the surface in patches. Abundant also at Mud lake, south Herkimer county, in shade and wet moss. Sparingly in the Litchfield marshes. Formerly it flourished in the Oriskany swamp, where it was discovered. Leaves orbiculate, on long petioles; flowers many, loose in the raceme, deep purple, the most beautiful of the genus. Rare. June.

ELLIPTICA, *Nutt.* *Elliptical-leaved Pyrola.*

Woods. Common. June.

CHLORANTHA, *Swartz.* *Green-flowered Pyrola.*

Sandy woods. Schenectady county pine woods, and along the Rolle-boom of the Rotterdam hills. East side of Otsego lake, *B.D.Gilbert.* Plains of Rome, *Knieskern.* Penn-Yan, *Sartwell in herb. Ham. Coll.* Rare. June.

SECUNDA, *L.* *Onesided-flowering Pyrola.*

Dry woods and hillsides, in deep shade. Common.

In the high cold cedar swamps of Summit lake; Mud lake, State swamp of south Herkimer county, a small form grows in wet moss under evergreens, with small round leaves, half an inch in diameter and less, nearly entire, very light-colored; flowers few, slender. Rare. July.

MONESES, *Salisbury.* *One-flowered Pyrola.*

UNIFLORA, *Gray.* *Single-flowered Moneses.*

Deep woods. Otsego county, *Miss S. Cooper : J. S. Douglass, Torr. Fl. N.Y.* Woods at Herkimer, *Gray.* Eaton, Madison county, *Bradley.* Penn-Yan, Yates county, *Sartwell in herb. Ham. Coll.* Rare. June.

CHIMAPHILA, *Pursh.* *Prince's-pine.*

UMBELLATA, *Nuttall.* *Umbellate Chimaphila.*

Dry banks, in evergreen shade. Common. June.

MACULATA, *Pursh.* *Spotted-leaved Chimaphila.*

Sandy woods. Otsego county, common, *Miss S. Cooper.* Pine plains of Rome, scarce. Near Verona, *Knieskern.* Auburn, *I. H. Hall.* Yates county, *Sartwell.*

Usually with ovate leaves : lanceolate leaves are found in a cedar swamp southwest of Utica, on the Chenango canal. Rare. July.

PTEROSPORA, *Nuttall.* *Pine-drops.*

ANDROMEDEA, *Nutt.* *Andromeda-flowered Pterospora.*

Dry shaded banks. Factory glen, and Jantepusche's berg, Rotterdam, six miles west of Schenectady, *Pearson.* Steep sides of Oriskany creek just above Dexter factory, where it was discovered by VASEY. Littlefalls, *Cooper;* Sackett's-harbor, *Wood ;* Banks of Seneca lake, *Gray ; Torrey Fl. N.Y.* Penn-Yan, *Sartwell in herb. Ham. Coll.* Rare. August.

MONOTROPA, *L.* *Indian Pipe.*

UNIFLORA, *L.* *One-flowered Monotropa.*

Dry woods. Common. July, August.

HYPOPITYS, *L.* *Pine-parasite Monotropa.*

Open woods of oak and pine. Helderberg mountains, three miles southeast of Knowerville, *Pearson.* Near Moss pond, Otsego county, *B. D. Gilbert.* Moist woods near Oneida lake, *Knieskern.* Yates county, *Sartwell.* Parma, Monroe county, *Bradley.* Scarce. July, August.

## AQUIFOLIACEÆ. *Hollies.*

ILEX, *L.* *Winterberries.*

VERTICILLATA, *Gray.* *Verticillate-flowered Ilex.*

Streams and swamps. Common. June.

LÆVIGATA, *Gray.* *Smooth-leaved Ilex.*

Low thickets. Major Van Voost's fly, Schenectady, *Pearson.* Infrequent. June.

NEMOPANTHES, *Rafinesque.* *Mountain Holly.*

CANADENSIS, *DC.* *Canadian Nemopanthes.*

Cold swamps. Frankfort hill, around the sphagnum pond. Paris hill. Abundant in the swamps west of Rome. Dry woods along the summit of the Fish creek cliffs. Common in the north woods about ponds and lakes. Frequent. May.

## PLANTAGINACEÆ. *Plantains.*

PLANTAGO, *L.*

*MAJOR*, L. *Common Plantain. Greater Plantago.*

Damp grounds, waste places. June – August.

*LANCEOLATA*, L. *English Plantain. Lanceolate-leaved Plantago.*

Roadsides and fields. Common. May – July.

## PRIMULACEÆ. *Primroses.*

### PRIMULA, *L.*

MISTASSINICA, *Michaux.* *From Lake Mistassinnie.*

Cliffs of Fish creek, from Taberg northward; in the crevices of dry rocks and on the surface of wet precipices, with, but outnumbering, *Saxifraga aizoides*. Near dripping water the plants grow most abundantly and largest, often eight or ten inches in height, and bearing a cluster of as many flowers. These vary in color, from pure white, through different shades of pink, to deep blue. The leaves also vary in form, from round obovate to oblong lanceolate; often entire, commonly more or less toothed; usually smooth beneath, but frequently white mealy. A whole cliff-side scattered over with these variegated Primroses is one of the loveliest sights in all our flora.

It has been found also in the deep ravine of Hammondsport at the head of Crooked lake, Steuben county, by Dr. SARTWELL. These stations are the southern limits of the plant. In the northern part of the continent its range is extensive, from Labrador and Lake Mistassinnie, to the Rocky mountains and the Northwest coast; and northward to the Arctic circle.

Local. Latter part of May.

### DODECATHEON, *L.* *American Cowslip.*

MEADIA, *L.* MEAD'S *Dodecatheon.*

Rich banks. Steuben county, *Sartwell in herb. Ham. Coll.* Rev. Mr. BOSTWICK, formerly of Hammondsport, found this on the Conhocton river below Bath, and introduced it to his garden, from which I collected specimens, *Sartwell.* Rare. May.

### TRIENTALIS, *L.* *May-star.*

AMERICANA, *Pursh.* *American Trientalis.*

Moist woods. Common. May.

### LYSIMACHIA, *L.* *Loosestrifes.*

STRICTA, *Aiton.* *Upright Lysimachia.*

Marshy places. June, July.

QUADRIFOLIA, *L.* *Whorled-leaved Lysimachia.*

Open sandy woods; wet grass lands. Abundant. June.

CILIATA, *L.* *Fringed Lysimachia.*

Borders of streams, swamps Common on the shaded banks of the Mohawk, in deep low woods, and cedar swamps on the hills. July, August.

### NAUMBURGIA, *Mœnch.* *Naumburgia.*

THYRSIFLORA, *Reichenbach.* *Thyrsoid Naumburgia.*

Low meadows of the Mohawk, below Utica, below Oriskany. Swamps on the hills, from Summit lake to Cedar lake and Graefenberg hill. Paris hill. Abundant in the swamps of Rome. Frequent. June.

### SAMOLUS, *L.* *Water Pimpernel.*

VALERANDI, *L.*, var. AMERICANUS, *Gray.* *American Samolus.*

Rivulet-sides, grassy marshes. Oriskany valley; Oriskany, Manchester. Abundant about Onondaga lake, along muddy banks, especially at its head, Salina. Infrequent. July – September.

### HOTTONIA, *L.* *Featherfoil.*

INFLATA, *Elliott.* *Inflated-peduncled Hottonia.*

Still water. Two or three miles west of Dexter, Jefferson county, *Vasey.* Rare. June.

## LENTIBULACEÆ. *Bladderworts.*

### UTRICULARIA, *L.* *Utricularias.*

VULGARIS, *L.* *Common Utricularia.*

Ponds and their muddy borders. Below Utica, on the flats. Mud lake and Hidden lake, south Herkimer county. Bogs on the meadows of Fish creek above Humaston's. Black brook at the head of Oneida lake. Ponds near Oneida lake, *Knieskern.* Abundant. June, July.

MINOR, *L.* *Smaller Utricularia.*

Swamps, Jefferson county, *Crawe, Gray in Rare plants of Northern N.Y.* Abundant on Hidden lake, among grass in standing water, or along borders of wide places in the rivulet. Scapes ten- to fifteen-flowered : flowers pale yellow, or flesh-colored. Rare. June, July.

CLANDESTINA, *Nutt.* *Stem-flowering Utricularia.*

Pond borders. I have another species of UTRICULARIA, collected near Utica by Dr. KNIESKERN, which I am unable to determine from the dried and rather imperfect specimens. Its general appearance is that of *U. vulgaris*, but the flowers are scarcely one-third as large as in that species. The spur is short, thick, and very obtuse. At the base of the scape, and along the submerged stem, there are scattered one-flowered peduncles, *Torrey Fl N.Y.* In a shallow mossy pool on the sphagnum border of Wetmore's pond, Frankfort hill, a few plants. Rare. July.

INTERMEDIA, *Hayne.* *Intermediate Utricularia.*

In very wet swamps, Watertown, Jefferson county, *Crawe, Gray in Rare plants of Northern N.Y.* Jefferson county, *Crawe in herb. Sartwell Ham. Coll.* Wet places on Hidden lake, Litchfield, south Herkimer county, where it is abundant. Rare. June, July.

GIBBA, *L.* *Gibbous-spurred Utricularia.*

In mossy sloughs on Hidden lake. Swamp west of Whitesboro, *Douglass Houghton in herb., G. W. Clinton.* Rare. August.

CORNUTA, *Michx.* *Horned Utricularia.*

Swamps, bogs, shores. Abundant on Hidden lake in wet moss. Sphagnous swamp bordering Perch lake, Jefferson county, *Gray in Rare plants of Northern N.Y.* Frequent on sandy shores of lakes in the north woods. Swamps on the Pine plains of Rome, *Knieskern.* Junius, Seneca county, *Sartwell in herb. Ham. Coll.* Rare. June, July.

### PINGUICULA, *L.* *Butterwort.*

VULGARIS, *L.* *Common Butterwort.*

Wet meadows below the falls of Genesee river at Rochester, *Dewey in herb. Union Coll.; Carey in herb. Sartwell Ham. Coll.; Z. H. Harris in herb. Bradley.* Exhausted at Rochester, but said to grow on the walls of the river above or below Portage, *Chester Dewey.* Rare. June, July.

## OROBANCHACEÆ. *Broomrapes.*

### EPIPHEGUS, *Nuttall.* *Beechdrops.*

VIRGINIANA, *Barton.* *Virginian Epiphegus.*

Everywhere in beech woods. The whole plant in color pure golden yellow, in rich woods near Clark's mills. August, September.

### CONOPHOLIS, *Wallroth.*

AMERICANA, *Wallr.* *American Conopholis.*

Rich woods. Schoharie county, *Knieskern :* Oriskany, *Vasey, Torr. Fl. N.Y.* Chestnut woods east of Auburn, *I. H. Hall.* Seneca county, *Sartwell in herb. Ham. Coll.* Oak openings, Parma, Monroe county, *Bradley.* Rare. June.

APHYLLON, *Mitchell.*

UNIFLORUM, *Torr. & Gr.* *Single-flowered Aphyllon.*

Moist woods. Schenectady, *Pearson.* Shady banks of the Mohawk, *J. G. Crocker.* Pine plains of Rome, *Knieskern.* Infrequent. May, June.

## SCROPHULARIACEÆ. *Figworts.*

VERBASCUM, *L.* *Mulleins.*

*THAPSUS*, L. *Common Mullein. From the Ancient Thapsus.*

Roadsides, old fields. Common. June, September.

*BLATTARIA*, L. *Moth Mullein.*

Waysides, pastures, hills. Albany; Schenectady; Littlefalls; round about Utica : the form with white and purple flowers. The bright yellow flowers are abundant in Trenton. Common. June – October.

*LYCHNITIS*, L. *White Mullein. The Ancient Lychnitis.*

Barren sandy fields and copses on a ridge at the head of Oneida lake, parallel with the shore, beyond which are swamps. It is most abundant around the mouth of Fish creek. Here are the ruins of an old fort, which may account for the introduction of the plant.

Two hybrids between this species and *V. thapsus*, one resembling the latter with a simple stem and yellow flowers, and the other the former with paniculate branches and white corollas, were observed by *Knieskern.*

Local. July, August.

LINARIA, *Tournefort.* *Toadflax.*

*VULGARIS*, Miller. *Common Linaria.*

Roadsides and waste grounds. Common. June – October.

*ELATINE*, Miller. *The Ancient Elatine.*

Sandy soils. Near Albany, *Beck;* and shores of Cayuga lake, *Gray, Torrey Fl. N.Y.* Formerly in the streets of Geneva, *Sartwell.* Rare. June, July.

SCROPHULARIA, *Tournefort.* *Figwort.*

NODOSA, *L.* *Nodose-rooted Scrophularia.*

Roadsides, river-banks. Common. July – September.

COLLINSIA, *Nuttall.* *Collinsia.*

VERNA, *Nutt.* *Early Collinsia.*

Wet meadows on the flats of the Mohawk, just below Utica. Borders of a small pond near Utica, *Knieskern.* Near Utica, *Gray;* Ithaca, *Aikin, Torrey Fl. N.Y.* Rare. May.

CHELONE, *Tournefort.* *Snakehead.*

GLABRA, *L.* *Smooth Chelone.*

Grassy swamps. Common. July – October.

PENTSTEMON, *Mitchell.*

PUBESCENS, *Solander.* *Downy Pentstemon.*

Barren gravelly banks. Abundant along the Railroad west of Schenectady to Fort-Plain. Otsego county, *H. Lathrop.* Rocky sides of Black river below Watertown. Seneca lake, *Gray.* Greece, on oak openings, *Bradley.*

Frequent. June – August.

MIMULUS, *L.* *Monkey-flowers.*

RINGENS, *L.* *Gaping-flowered Mimulus.*

Ditches, streams. Common. July – September.

ALATUS, *Aiton.* *Winged-stemmed Mimulus.*

Wet meadows, river-sides. Abundant in the western part of New-York, *Beck.* Greece, Monroe county, *Bradley.* Lockport, *Sartwell.* Infrequent. July, August.

GRATIOLA, *L.* *Hedge-hyssop.*

VIRGINIANA, *L.* *Virginian Gratiola.*

Muddy banks, rivulets and overflowed places. Common. June – August.

ILYSANTHES, *Rafinesque.* *False Pimpernel.*

GRATIOLOIDES, *Bentham.* *Gratiola-like Ilysanthes.*

Water-sides. Near Oneida lake, *Knieskern, Gray.* Infrequent. July – Sept.

VERONICA, *L.* *Speedwells.*

VIRGINICA, *L.* *Culver's-root. Virginian Veronica.*

Borders of low woods, copses. Below Schenectady, *Pearson.* Clinton, *Bradley.* Oriskany, *Knieskern.* Junius and Avon, *Sartwell in herb. Ham. Coll.* Infrequent. July.

ANAGALLIS, *L.* *Poor Man's Weatherglass-like Veronica.*

Rivulets and ponds. Abundant about Cedarville, and down the Ilion creek to the Mohawk river : grows to an immense size in the mill-ponds, in deep water. Uncommon. June – August.

AMERICANA, *Schweinitz.* *American Veronica.*

Streams, marshes. Common. June – September.

SCUTELLATA, *L.* *Little Shield-like-podded Veronica.*

Wet meadows, swamps. Common. May – July.

OFFICINALIS, *L.* *Officinal Veronica.*

Dry woods, hillsides, pastures. Common. June.

SERPYLLIFOLIA, *L.* *Thyme-leaved Veronica.*

Moist grass lands. Common. May – August.

PEREGRINA, *L.* *Travelling Veronica.*

Rocks, gardens, fields. Common. May, June.

*ARVENSIS*, L. *Cultivated-field Veronica.*

Dry banks, hillsides, pastures. Frequent. April – August.

BUCHNERA, *L.* *Blue-hearts.*

AMERICANA, *L.* *American Buchnera.*

Wet meadows and along streams. Chenango valley and westward, *Knieskern.* Gorham, Ontario county, *Sartwell in herb. Ham. Coll.* Rochester, *Z. H. Harris in herb. Bradley.* Banks of the Genesee river, Greece, *Bradley, Torrey Fl. N.Y.* Rare. July, August.

GERARDIA, *L.* *Foxgloves. Gerardias.*

PURPUREA, *L.* *Purple-flowered Gerardia.*

Marshy water-sides. Shores of Lake Ontario and the St. Lawrence river, from Irondequoit bay, *L. Holzer,* to Alexandria bay. Rare. July – Sept.

TENUIFOLIA, *Vahl.* *Slender-leaved Gerardia.*

Dry banks. Chenango valley and westward, *Knieskern.* Copses along the east side of Onondaga lake. Crooked lake, *Sartwell in herb. Ham. Coll.* Oak openings, Greece, *Bradley.* Frequent. August, September.

FLAVA, *L.* — *Yellow-flowered Gerardia.*

Copses. Otsego county, *H. Lathrop.* Borders of Oneida lake, on sandy plains, *Knieskern.* Occasional. July, August.

QUERCIFOLIA, *Pursh.* — *Oak-leaved Gerardia.*

Rocky woods; shady banks. Schenectady county, grove northeast of the College buildings, and copses on the Rotterdam hills. Near Oneida lake, *Gray.* Outlet of Owasco lake, *I. H. Hall.* Yates county, *Sartwell in herb. Ham. Coll.* Greece, on oak openings, *Bradley.* Scarce. August.

PEDICULARIA, *L.* — *Pedicularis-leaved Gerardia.*

Open woods. Pine plains of Schenectady, *E. W. Paige.* Outlet of Owasco lake, *I. H. Hall.* Yates county, *Sartwell in herb. Ham. Coll.* Monroe county, *L. Holzer.* Infrequent. August, September.

CASTILLEIA, *Mutis.* — *Painted-cup.*

COCCINEA, *Spreng.* — *Scarlet-bracted Castilleia.*

Wet meadows, swamp borders. Oneida lake, *Gray.* Eaton, Madison county, *Bradley.* Penn-Yan, *Sartwell in herb. Ham. Coll* Greece, Monroe county, *Bradley.* Infrequent. May, June.

SCHWALBEA, *Gronovius.* — *Chaff-seed.*

AMERICANA, *L.* — *American Schwalbea.*

Sandy banks. Found in the sandy plains near Albany, *Beck bot.* Between Albany and Schenectady, near Centre station. Rare. June – August.

PEDICULARIS, *Tournefort.* — *Wood Betony.*

CANADENSIS, *L.* — *Canadian Pedicularis.*

Rocky woods. Little falls. Fish creek. Frequent. May – July.

LANCEOLATA, *Michx.* — *Lanceolate-leaved Pedicularis.*

Borders of swamps. Tarrytown, *I. H. Hall.* Glenville, Schenectady county; Madison county, *Pearson.* About Rochester, in several localities. *C. M. Booth.* Western counties, *Knieskern.* Rare. August, September.

MELAMPYRUM, *Tournefort.*

AMERICANUM, *Michx.* — *American Melampyrum.*

Dry woods. Rotterdam hills, Schenectady county. Abundant in the rocky woods of Littlefalls, Herkimer county. Pine plains of Rome. Frequent. June – August.

## ACANTHACEÆ. — *Acanthus.*

DIANTHERA, *Gronovius.* — *Water-willow.*

AMERICANA, *L.* — *American Dianthera.*

Water-sides. Shallow water, Oneida lake, *Knieskern.* A mile or two south of Oswego, between the canal and the river. Scarce. July – September.

## VERBENACEÆ. — *Verbenas.*

VERBENA, *L.* — *Vervains.*

HASTATA, *L.* — *Hastate-leaved Verbena.*

Waste grounds, flats of streams. Common. July – September.

URTICIFOLIA, *L.* — *Nettle-leaved Verbena.*

Roadsides, pastures. Common.
Hybrids with purple flowers are abundant. July – September.

PHRYMA, *L.* — *Lopseed.*

LEPTOSTACHYA, *L.* — *Slender-spiked Phryma.*

Ravines and borders of woods. Common. July, August.

## LABIATÆ. — *Mints.*

TEUCRIUM, *L.* — *Germander. Wood-sage.*

CANADENSE, *L.* — *Canadian Teucrium.*

Banks of streams, marshes. Schenectady, *Pearson.* Banks of Fish creek, *Knieskern.* Ravine of Chittenango creek; borders of Onondaga lake. Island in the outlet of Owasco lake, *I. H. Hall.* Head of Seneca lake, with white flowers, *Sartwell in herb. Ham. Coll.* Infrequent. July – September.

TRICHOSTEMA, *L.* — *Blue Curls.*

DICHOTOMUM, *L.* — *Dichotomous Trichostema.*

Rocks or barren hillsides. Littlefalls, south of the river, along the base of the cliffs. Scarce. July, August.

ISANTHUS, *Michaux.* — *False Pennyroyal.*

CÆRULEUS, *Michx.* — *Blue-flowered Isanthus.*

River banks. Above Cohoes falls, *Gray.* Banks of the Erie canal between Albany and Schenectady, *Knieskern;* Jefferson county, *Crawe, Torrey Fl. N.Y.* Rare. July, August.

MENTHA, *L.* — *Mints.*

*VIRIDIS*, L. — *Spearmint.*

Brooks, roadsides in damp places. Common. July, August.

*PIPERITA*, L. — *Peppermint.*

Rivulets and their borders. Abundant. July, August.

CANADENSIS, *L.* — *Canadian Mint.*

Low grounds. Common.

var. GLABRATA, *Bentham.* — *Smooth Mint.*

Grassy swamps. Abundant. July, August.

LYCOPUS, *L.* — *Bugle-weed. Water Horehounds.*

VIRGINICUS, *L.* — *Virginian Lycopus.*

Shaded low grounds. Frequent. July, August.

EUROPÆUS, *L.* — *European Lycopus.*

var. SINUATUS, *Gray.* — *Sinuated-leaved Lycopus.*

Overflowed marshes, standing water. Common. July, August.

HYSSOPUS, *L.* — *Hyssop.*

*OFFICINALIS*, L. — *Officinal Hyssopus.*

Escapes from cultivation. Roadsides on the Litchfield hills, long established. Yates county, frequently, *Sartwell.* June – September.

PYCNANTHEMUM, *Michaux.* — *Mountain-mints.*

INCANUM, *Michx.* — *Hoary Pycnanthemum.*

Rocks and hillsides. Oneida county, *Knieskern.* Yates county, *Sartwell in herb. Ham. Coll.* Greece, Monroe county, *Bradley.* Frequent. July, August.

CLINOPODIOIDES, *Torr. & Gr.* *Clinopodium-like Pycnanthemum.*
Dry banks. Sleepy Hollow Cemetery, Tarrytown, *I. H. Hall.*
Scarce. August, September.

MUTICUM, *Persoon.* *Awnless Pycnanthemum.*
Barren hillsides. Tarrytown, *I.H.Hall.* Brighton, Monroe county, *L.Holzer.*
Rare. July, August.

LANCEOLATUM, *Pursh.* *Lance-leaved Pycnanthemum.*
Bushy banks along the east side of Onondaga lake. Greece. Monroe county, *Bradley.*
Infrequent. August, September.

ORIGANUM, *L.* *Wild Marjoram.*
*VULGARE*, L. *Common Origanum.*
Sandy or gravelly banks. Troy, *Aiken in herb. Sartwell Ham. Coll.*
Rare. July – October.

THYMUS, *L.* *Creeping Thyme.*
*SERPYLLUM.* L. *The Ancient Serpyllum.*
Banks. Hackney falls on the outlet of Owasco lake, Auburn, certainly wild, *I. H. Hall.*
Rare. June, August.

CALAMINTHA, *Mœnch.* *Calaminth. Basil.*
*CLINOPODIUM*, Bentham. *Bed-foot Calamintha.*
Copses. Common. July – September.

MELISSA, *L.* *Balm.*
*OFFICINALIS.* L. *Officinal Melissa.*
Roadsides, edges of woods, remote from gardens. Fairfield, *Hadley in herb.* Roadsides on the Litchfield hills. Woods near Schuyler, Herkimer county, on the hillside. East of Clinton. Frequent. July – September.

HEDEOMA, *Persoon.* *Pennyroyal.*
PULEGIOIDES, *Pers.* *Pennyroyal-like Hedeoma.*
Rich woods; barren sidehills and pastures. Common. July – September.

COLLINSONIA, *L.* *Horse-balm.*
CANADENSIS, *L.* *Canadian Collinsonia.*
Shady ravine-bottoms. Common. July, August.

MONARDA, *L.* *Oswego Tea. Horse-mints.*
DIDYMA, *L.* *Two-whorled-flowered Monarda.*
Wet meadows and ravines. Common. July, August.

FISTULOSA, *L.* *Hollow-stemmed Monarda.*
Rocky banks. Penn-Yan, *Sartwell in herb. Ham. Coll.* Abundant near Rochester, *Beck bot.*
Infrequent. July, August.

PUNCTATA, *L.* *Spotted-flowered Monarda.*
Dry grounds. Jefferson county, *Vasey;* near Owego, Susquehanna valley, *Knieskern, Torrey Fl. N.Y.*
Rare. August, September.

BLEPHILIA, *Rafinesque.* *Blephilia.*
HIRSUTA, *Bentham.* *Hairy Blephilia.*
Low woodlands. Abundant throughout the northern and western portions of the State, *Gray in Rare plants of Northern N.Y.* Fairfield, Herkimer county, *Hadley, Gray.* Richfield, Otsego county, *G. W. Clinton.* Bridgewater, *Gray in cat.*
Frequent. July, August.

LOPHANTHUS, *Bentham.* — *Giant Hyssop.*

NEPETOIDES, *Benth.* — *Nepeta-like Lophanthus.*

Thickets. Westport, Essex county, *G. T. Stephens.* Schenectady county, *E. W. Paige.* Fairfield, *Hadley in herb.* Oneida county, *Knieskern.* Near Bridgewater, *Gray in cat.* Uncommon. July, August.

SCROPHULARIÆFOLIUS, *Benth.* — *Scrophularia-leaved Lophanthus.*

Borders of woods. Yates county, *Sartwell in herb. Ham. Coll.* Scarce. August.

NEPETA, *L.* — *Nepetas.*

*CATARIA*, L. — *Cat-mint.*

Walls, yards, waste places. Common. July – September.

*GLECHOMA*, Benth. — *From the ancient Glechon.*

Dooryards, hedges, grass lands: sometimes in deep woodland and ravines. Abundant. May – August.

DRACOCEPHALUM, *L.* — *Dragonhead.*

PARVIFLORUM, *Nutt.* — *Small-flowered Dracocephalum.*

Barren fields and woods, Watertown, Jefferson county, *Gray in Rare plants of Northern N.Y.* Brownville, *Crawe in herb. Sartwell Ham. Coll.* Rocky soil on the road between Watertown and Sackett's-harbor, *Knieskern.* Rocky banks of Black river, *Vasey.* Rocky banks of small lakes and rivers, St. Lawrence county, *Torrey Fl. N.Y.* Rare. May – August.

BRUNELLA, *Tournefort.* — *Selfheal. Healall.*

VULGARIS, *L.* — *Common Brunella.*

Roadsides, meadows, deep woods. Common. June – August

SCUTELLARIA, *L.* — *Skullcaps.*

PARVULA, *Michx.* — *Dwarf Scutellaria.*

Hillsides. St.Lawrence river; near Montreal, *Macrae in herb. Sartwell Ham. Coll.* Shore of Lake Ontario, *Gray, Torrey Fl. N.Y.* Rare. May, June.

GALERICULATA, *L.* — *Hooded Scutellaria.*

Swamps and flats of streams. Abundant. August.

LATERIFLORA, *L.* — *Side-flowering Scutellaria.*

River-banks and wet woods. Common. July, August.

MARRUBIUM, *L.* — *Horehound.*

*VULGARE*, L. — *Common Marrubium.*

Waysides, river-banks. Schenectady, *Pearson.* Penn-Yan, *Sartwell in herb. Ham. Coll.* Infrequent. July, August.

GALEOPSIS, *L.* — *Hemp-nettle.*

*TETRAHIT*, L. — *Fourparted-flowered Galeopsis.*

Damp waste places, river-banks. Common. July – September.

STACHYS, *L.* — *Hedge-nettle.*

PALUSTRIS, *L.* — *Marsh Stachys.*

Wet grass lands. Common.

var. ASPERA, *Gray.* — *Rough Stachys.*

Low grounds of streams. Frequent. July, August.

LEONURUS, *L.* — *Motherwort.*

*CARDIACA*, L. — *Cardiacal Leonurus.*

Waysides, fences, waste places. Common. July – September.

LAMIUM, *L.* — *Dead-nettle.*

*AMPLEXICAULE*, L. — *Clasping-leaved Lamium.*

Roadsides. Schenectady near the Saratoga railroad, in wet woods, *Pearson.* Fairfield, *Hadley in herb.* Near Bridgewater, *Gray in cat.* Uncommon. May – November.

PHLOMIS, *L.* — *Jerusalem Sage.*

*TUBEROSA*, L. — *Tuberous Phlomis.*

Shore of Lake Ontario. Introduced and somewhat naturalized near Rochester, *Chester Dewey in herb. Sartwell Ham. Coll.* June, July.

## BORRAGINACEÆ. — *Borages.*

ECHIUM, *Tournefort.* — *Blue-weed.*

*VULGARE*, L. — *Common Echium.*

Roadsides and fields. Nyack, Rockland county, *I. H. Hall.* Schenectady, *Pearson.* Scarce. June, July.

LYCOPSIS, *L.* — *Bugloss.*

*ARVENSIS*, L. — *Cultivated-field Lycopsis.*

Shores and waste grounds at Oswego. Rare. June – August.

SYMPHYTUM, *Tournefort.* — *Comfrey.*

*OFFICINALE*, L. — *Officinal Symphytum.*

Waysides, flats of streams. Common. June – October.

ONOSMODIUM, *Michaux.* — *False Gromwell.*

VIRGINIANUM, *DC.* — *Virginian Onosmodium.*

Dry hills. Saratoga county, *L. Collins.* Herkimer, *Gray.* Vernon, *Kniskern.* Seneca lake, *Sartwell.* Infrequent. June, July.

CAROLINIANUM, *DC.* — *Carolinian Onosmodium.*

Sandy grounds near Albany, *G. W. Clinton, Beck bot.* Stone creek, *Gray.* Rare. June – August.

LITHOSPERMUM, *Tournefort.* — *Gromwell. Puccoon.*

*ARVENSE*, L. — *Cornfield Lithospermum.*

Hillsides, barren grounds. Along the Central railroad at Fort-Plain. Rocky banks of Black river. Frequent. May, June.

*OFFICINALE*, L. — *Officinal Lithospermum.*

Roadsides, pastures. Abundant June – September.

LATIFOLIUM, *Michx.* — *Broad-leaved Lithospermum.*

Copses. Yates county, *Sartwell in herb. Ham. Coll.* Scottsville, Monroe county, *L. Holzer.* Rare. June.

HIRTUM, *Lehmann.* — *Hairy Puccoon. Rough Lithospermum.*

Sandy sidehills near Irondequoit bay, Penfield, Monroe county, *L. Holzer: C. M. Booth.* Rare. May, June.

CANESCENS, *Lehm.* — *Hoary Puccoon. Soft Lithospermum.*

Dry fields. Jonesville, Saratoga county, *L. Collins*. Auburn, Cayuga county, *I. H. Hall*. Rare. May, June.

MERTENSIA, *Roth.* — *Lungwort.*

VIRGINICA, *DC.* — *Virginian Mertensia.*

Rich grounds along streams. Otsego county, *H. Lathrop*. Along Wood creek, near New-London, *Gray*. Banks of Oneida and Fish creeks, *Knieskern*. Steuben county, *Sartwell in herb. Ham. Coll.* Rare. May.

MYOSOTIS, *L.* — *Forget-me-not.*

PALUSTRIS, *Withering.* — *Marsh Myosotis.*

var. LAXA, *Gray.* — *Spreading Myosotis.*

Brook-sides. Abundant from Wood creek westward. May – September.

VERNA, *Nutt.* — *Early Myosotis.*

Stony fields, rocky banks. About Utica. Abundant on the barren sides of Black river below Watertown. Frequent. May – July.

ECHINOSPERMUM, *Swartz.* — *Stickseed.*

*LAPPULA*, Lehmann. — *Bur Echinospermum.*

Waste-grounds. Common along the Central railroad; and the Chenango canal, from Utica southward. Dry gravelly banks, Oneida-castle, *Knieskern*. Chittenango falls. Frequent. July – October.

CYNOGLOSSUM, *Tournefort.* — *Hound's-tongue.*

*OFFICINALE*, L. — *Officinal Cynoglossum.*

Roadsides, ravines. Common.

var. ALBUM. — *White-flowered Cynoglossum.*

Penn-Yan, *Sartwell in herb. Ham. Coll.* June – September.

VIRGINICUM, *L.* — *Virginian Cynoglossum.*

Open woods. Near Vernon, *J. S. Douglass, Knieskern*. Yates county, *Sartwell*. Greece, Monroe county, *Bradley*. Scarce. June – August.

MORISONI, *DC.* — MORISON'S *Cynoglossum.*

Wet thickets and wood borders. Common. July – September.

## HYDROPHYLLACEÆ. — *Waterleafs.*

HYDROPHYLLUM, *L.* — *Waterleafs. Hydrophylla.*

VIRGINICUM, *L.* — *Virginian Hydrophyllum.*

Woods and meadows. Common. June.

CANADENSE, *L.* — *Canadian Hydrophyllum.*

Deep woods and ravines. Abundant. July.

APPENDICULATUM, *Michx.* — *Appendaged-calyxed Hydrophyllum.*

Damp rich woods. Flats of the Mohawk near Utica, *Miss J. E. Johnson in herb*. Parma, Monroe county, *Bradley*. Rare. June.

## POLEMONIACEÆ. *Polemonia.*

POLEMONIUM, *Tournefort.* *Greek Valerian.*

CÆRULEUM, *L.* *Blue-flowered Polemonium.*

Borders of a marsh three miles east of Charlottesville, Schoharie county, New-York, E. C. Howe, *Gray addend. bot.* Delaware county, on the hills of Delhi, half a mile above the Salt-works; growing in great clusters along the marshy borders of a rivulet emptying into Elk creek, discovered by B. D. Gilbert. Rare. June, July.

PHLOX, *L.* *Phloxes.*

PANICULATA, *L.* *Panicled Phlox.*

Cleared woodlands. Richfield, Otsego county, *G. W. Clinton.* Rare. July.

MACULATA, *L.* *Spotted-stemmed Phlox.*

Escapes from cultivation. Roadsides in South-Trenton. June.

DIVARICATA, *L.* *Divaricate-flowering Phlox.*

Ravines and shady banks; often covering the ground in groves. Common throughout the Mohawk valley, and for greater or less distances up its creeks and tributaries; far up the Starch-factory creek; Deerfield creek; Sauquoit creek, above New-Hartford; Oriskany valley to Clinton: thus appearing as if brought from the West somehow, long ago.

The flowers present all colors from white through many shades of pink and lilac, to deep blue. Petals entire frequently. The leaves also vary from long ovate to narrow lanceolate. May, June.

SUBULATA, *L.* *Moss-pink. Awl-like-leaved Phlox.*

Rocky banks. Along the Genesee river below Rochester, east side, *C. M. Booth;* west side, *G. T. Fish.* Rare. May.

## CONVOLVULACEÆ. *Bindweeds.*

CALYSTEGIA, *R. Brown.* *Bracted Bindweeds.*

SEPIUM, *R. Br.* *Hedge Calystegia.*

Banks of the Mohawk. Common. July, August.

var. REPENS, *Gray.* *Creeping Calystegia.*

Dry hillsides. Embankments of the Central railroad. Slaton's bush, toward Graefenberg hill. Frequent. June, July.

SPITHAMÆA, *Pursh.* *Span Calystegia.*

Sandy copses. Schenectady, *Pearson.* Pine plains of Rome, *Knieskern.* Banks of Genesee river, *L. Holzer.* Rare. June.

CUSCUTA, *Tournefort.* *Dodders.*

*EPILINUM*, Weihe. *Flax Cuscuta.*

Parasitic chiefly on flax. Schenectady, *Beck bot.* June, July.

GRONOVII, *Willd.* *Dedicated to* GRONOVIUS.

Thickets, swampy woods. Common. July – October.

## SOLANACEÆ. *Nightshades.*

SOLANUM, *L.* *Solana.*

*DULCAMARA*, L. *Bittersweet Solanum.*

Along streams; uncultivated cleared lands; under stone walls. Common. June – August.

*NIGRUM*, L. *Black-fruited Solanum.*
Waste places and woods. Frequent. July – September.

LYCOPERSICUM, *Tournefort.* *Love-apple. Tomato.*
*ESCULENTUM*, Miller. *Esculent Lycopersicum.*
Escapes from cultivation into waste places. Marshes of Salina, at the head of the lake. July – September.

PHYSALIS, *L.* *Ground-cherry.*
VISCOSA, *L.* *Clammy Physalis.*
Roadsides, fences, old fields. Schenectady, *Pearson.* Otsego county, *H. Lathrop.* Near Oneida lake, *Gray.* Penn-Yan, Yates county, *Sartwell.* Infrequent. July, August.

ATROPA, *L.* *Deadly Nightshade.*
*BELLADONNA*, L. *Fair-lady's Atropa.*
Naturalized in Parma, Monroe county, *Bradley.* Rare. June, July.

NICANDRA, *Adanson.* *Apple of Peru.*
*PHYSALOIDES*, Gærtner. *Physalis-like Nicandra.*
Neglected gardens and fields. Naturalized in Greece, *Bradley.* Infrequent. July – September.

HYOSCYAMUS, *Tournefort.* *Henbane.*
*NIGER*, L. *Black Hyoscyamus.*
Waste lots in cities. Abundant on waste banks and bottoms of Otsquago creek at Fort-Plain, Montgomery county. Otsego county, *H. Lathrop.* Oswego, about excavations. Infrequent. June – September.

DATURA, *L.*
*STRAMONIUM*, L. *Officinal Stramonium. White-flowered Datura.*
Streets of Albany and Utica.
var. *TATULA*, Torrey. *Thorn-apple. Purple-flowered Datura..*
Waste-places about Schenectady. Roadsides a mile or two below Utica. About Bridgewater, *Gray.* Scarce. July – September.

## GENTIANACEÆ. *Gentians.*

ERYTHRÆA, *Persoon.* *Centaury.*
*CENTAURIUM*, Pers. *The Ancient Centaurion.*
Meadows and pastures. Oswego, two miles northward near the Lake shore; two or three miles south of the city and east of the river, borders of woods. Local. July – September.

FRASERA, *Walter.* *American Columbo.*
CAROLINENSIS, *Walt.* *Carolinian Frasera.*
Open dry woods. Banks of the Genesee river, *Hadley*, which should be the reference in *Torrey Fl. N.Y.*, instead of West-Canada creek, *Gray.* East-Bloomfield, Ontario county, *Sartwell.* Penfield, Monroe county, *L. Holzer: C. M. Booth.* South of Moscow, Livingston county, *Bradley.* Rare. July.

GENTIANA, *L.* *Gentians.*
QUINQUEFLORA, *Lamarck.* *Five-flowered Gentian.*
Hillsides. Lake George and Fairfield, *Hadley in herb.* Factory glen; Rotterdam springs, *Pearson.* Bridgewater, *Gray in cat.* Borders of a beaver

meadow, Vernon, *J. S. Douglass, Knieskern.* Rise of ground south of Leland's pond, and east of the road from Bouckville to Eaton, Madison county; Greece, Monroe county, *Bradley.* Gorham, *Sartwell in herb. Ham. Coll.* Near Rochester, *C. M. Booth : G. T. Fish.* Rare. August – October.

CRINITA, *Frölich.* *Fringed-flowered Gentian.*

Meadows, banks, borders of woods. Pine plains of Schenectady, *Pearson.* Borders of beaver meadows, Vernon, *Douglass, Knieskern.* Eaton, Madison county, and Greece, *Bradley.* Penn-Yan, *Sartwell in herb. Ham. Coll.* Scarce. September, October.

ALBA, *Muhl.* *White-flowered Gentian.*

Borders of streams. Abundant along the outlet of Owasco lake, *I. H. Hall.* Rare. August, September.

ANDREWSII, *Grisebach.* *Closed-flowered Gentian.*

Wet banks, borders of swamps. Schenectady, *Pearson.* Wood and Fish creeks, *Knieskern.* Owasco lake, *I. H. Hall.* Frequent. August – October.

SAPONARIA, *L.* *Soapwort-leaved Gentian.*

var. LINEARIS, *Gray.* *Linear-leaved Gentian.*

Abundant along the streams and lake shores in the north woods. August.

BARTONIA, *Muhlenberg.*

TENELLA, *Muhl.* *Slender Bartonia.*

Sandy woods and swamps. Pine plains of Rome, *Knieskern.* Deep swamps west of New London. Infrequent. August, September.

MENYANTHES, *Tournefort.* *Buckbean.*

TRIFOLIATA, *L.* *Trifoliate Menyanthes.*

Cold swamps. Littlefalls. Mud lake. Hidden lake. Frankfort hill. Rome. Point of Rock lake. Abundant in the northern part of the county and the north woods. Frequent. May.

LIMNANTHEMUM, *Gmelin.* *Floating-heart.*

LACUNOSUM, *Griseb.* *Pitted-leaved Limnanthemum.*

Ponds, lakes. Oneida lake, *Knieskern.* Rare. June, July.

## APOCYNACEÆ. *Dogbanes.*

APOCYNUM, *Tournefort.* *Apocyna.*

ANDROSÆMIFOLIUM, *L.* *Androsæmum-leaved Apocynum.*

Hillsides, copses. Littlefalls. Open plains of Rome. Common. June, July.

CANNABINUM, *L.* *Hemp Apocynum.*

Banks of streams. Abundant along the low banks of the Mohawk river. Fish creek.

var. PUBESCENS, *DC.* *Pubescent-leaved Apocynum.*

Northern part of the State, *Gray.* Troy, *Aiken in herb. Sartwell Ham. Coll.*

var. HYPERICIFOLIUM, *Gray.* *Hypericum-leaved Apocynum.*

East- and West-Canada creeks, *Gray.* Penn-Yan, *Sartwell in herb. Ham. Coll.* Frequent. June – August.

## ASCLEPIADACEÆ. *Milkweeds.*

### ASCLEPIAS, *L.*

CORNUTI, *Decaisne.* *Dedicated to* CORNUTI.

Roadsides, fences, ravines. Common. June – August.

PHYTOLACCOIDES, *Pursh.* *Pokeweed-like Asclepias.*

Open woods, shores. Ballston lake, *Pearson.* Otsego county, *H. Lathrop.* Pine plains of Rome, and near Oneida lake, *Knieskern.* Greece, Monroe county, *Bradley.* Frequent. June, July.

PURPURASCENS, *L.* *Deep-purple-flowered Asclepias.*

Moist woods, along rivulets, water-sides. Banks of Sander's lake, Schenectady county, *Pearson.* About Oneida lake, doubtless. Rare. July.

QUADRIFOLIA, *Jacquin.* *Four-leaved Asclepias.*

Dry shady ground. In all pine woods of Schenectady county. Otsego county, *H. Lathrop.* Penn-Yan, *Sartwell in herb. Ham. Coll.* Uncommon. June.

OBTUSIFOLIA, *Michx.* *Obtuse-leaved Asclepias.*

Sandy plains. Between Albany and Schenectady, near Centre station. Schenectady, *Pearson.* Infrequent. June, July.

INCARNATA, *L.* *Flesh-colored-flowered Asclepias.*

Along streams and shores. Common. July.

TUBEROSA, *L.* *Tuberous Asclepias.*

Hillsides and sandy plains. Abundant between Albany and Schenectady, and west to Amsterdam. Otsego county, *H. Lathrop.* Pine plains and borders of Oneida lake, *Knieskern.* Seneca county, *Sartwell.* Oak openings Greece, *Bradley.* Uncommon. July, August.

VERTICILLATA, *L.* *Whorled-leaved Asclepias.*

Dry banks. Schenectady county, *Pearson: Paige.* Penfield, Monroe county, *L. Holzer.* Scarce. July – September.

### PERIPLOCA, *L.* *Periploca.*

*GRÆCA*, L. *Grecian Periploca.*

Naturalized. Near Rochester, *Sartwell in herb. Ham. Coll.* Rare. July, August.

## OLEACEÆ. *Olives.*

### LIGUSTRUM, *Tournefort.* *Privet.*

*VULGARE*, L. *Common Ligustrum.*

Naturalized from hedges. College grounds, Schenectady, *Pearson.* Benton, Yates county, *Sartwell in herb. Ham. Coll.* Occasional. June.

### FRAXINUS, *Tournefort.*

AMERICANA, *L.* *White, American Ash.*

Forests. Common. April, May.

PUBESCENS, *Lamarck.* *Red, Pubescent Ash.*

Woods. Schenectady, *Pearson.* Yates county, *Sartwell in herb. Ham. Coll.* Infrequent. May.

SAMBUCIFOLIA, *Lamarck.* *Black, Elder-leaved Ash.*

Swamps. Common. April.

## C. APETALOUS EXOGENS.

### ARISTOLOCHIACEÆ. *Birthworts.*

ASARUM, *Tournefort.* *Wild Ginger.*

CANADENSE, *L.* *Canadian Asarum.*

Ravine-sides. Common. April, May.

### PHYTOLACCACEÆ. *Pokeweeds.*

PHYTOLACCA, *Tournefort.* *Pokeweed.*

DECANDRA, *L.* *Ten-stamened Phytolacca.*

Borders of woods, cleared lands. Common. June – October.

### CHENOPODIACEÆ. *Chenopods.*

CHENOPODIUM, *L.* *Goosefoots. Chenopodia.*

*HYBRIDUM*, L. *Maple-leaved, Hybrid Chenopodium.*

Waste grounds. Common. July, August.

*URBICUM*, L. *Metropolitan Chenopodium.*

var. RHOMBIFOLIUM, *Moquin.* *Wedge-leaved Chenopodium.*

Streets, banks. Penn-Yan, *Sartwell fide Carey in herb. Ham. Coll.* Rare. June, July.

*ALBUM*, L. *White Chenopodium.*

Roadsides, gardens. Common. July, August.

GLAUCUM, *L.* *Oak, Glaucous-leaved Chenopodium.*

Abundant at Salina, and along the shores of Onondaga lake, where it is native, doubtless. Rare. July – November.

*BOTRYS*. L. *Jerusalem-oak. Clustered-fruited Chenopodium.*

Waysides, sandy wastes. Schenectady, *Pearson.* Banks of Fish creek, Vienna, *Knieskern.* Seneca lake, *Gray.* Penn-Yan, *Sartwell in herb. Ham. Coll.* Rochester, *C. M. Booth.* Infrequent. July – September.

*AMBROSIOIDES*, L. *Ambrosia-like Chenopodium.*

Roadsides. Salina. Penn-Yan, *Sartwell in herb. Ham. Coll.* Uncommon. August, September.

BLITUM, *Tournefort.* *Blites.*

MARITIMUM, *Nutt.* *Seashore Blite.*

Marshes at Salina, southwest shore of the lake, *G. W. Clinton.* Rare. August, September.

CAPITATUM, *L.* *Strawberry, Capitate-fruiting Blite.*

Roadsides, cleared lands. Schenectady, *Pearson.* Otsego county, *Miss S. Cooper : H. Lathrop.* Oriskany, *Knieskern.* Rome, *Beck bot.* Bridgewater, *Gray in cat.* Penn-Yan, *Sartwell in herb. Ham. Coll.* Greece, Monroe county, *Bradley.* Rare. June, July.

*BONUS-HENRICUS*, Reichenbach. *Good-King-Henry Blite.*

Waysides, dooryards, gardens. Common in Clinton and the Oriskany valley Oriskany, *Knieskern, Torrey Fl. N.Y. : in herb. Ham. Coll.* Rare. June – September.

ATRIPLEX, *Tournefort.* *Orache.*

HASTATA, *L.* *Hastate-leaved Atriplex.*

Common at Salina, roadsides, marshes, shores of the lake; with all manner of variations, from small erect simple plants, having rough brown seeds a line in diameter, through branching specimens with shining black seeds half a line in diameter, both light-green and covered with mealy scales; and a very large form with deep-green smooth leaves, seeds two lines in diameter, to

var. OBLONGIFOLIA. *Oblong-leaved Atriplex.*

Leaves entire, broadest at the end. August – November.

SALICORNIA, *Tournefort.* *Samphire.*

HERBACEA, *L.* *Herbaceous Salicornia.*

Salt-marshes of Onondaga lake: common at Salina, and abundant on the west side of the lake opposite Liverpool.

Many of the low grounds are covered with this plant; and in autumn they are very beautiful, after a few frosts have turned them into fields of crimson. August, September.

## AMARANTACEÆ. *Amaranths.*

AMARANTUS, *Tournefort.*

*HYBRIDUS*, L. *Hybrid Amarantus.*

Waste grounds. August – October.

*RETROFLEXUS*, L. *Reflexed-haired Amarantus.*

Gardens and fields. Common. July – September.

*ALBUS*, L. *White Amarantus.*

Roadsides, yards. August – October.

## POLYGONACEÆ. *Buckwheats.*

POLYGONUM, *L.*

*ORIENTALE*, L. *Oriental Polygonum.*

About gardens, rubbish. July – September.

AMPHIBIUM, *L.* *Amphibious Polygonum.*

In the lakes of the North woods a form abounds, much larger than the next and apparently quite different, growing with it.

var. AQUATICUM, *L.* *Water Polygonum.*

Sander's lake, *Pearson.* Oneida lake, *Knieskern.* East Dry-lot pond, south Herkimer county. In all the lakes and ponds from Otsego to Madison counties, *Gray.* Leland's pond, Eaton, Madison county, *Bradley.* Common in the lakes of the north woods.

var. TERRESTRE, *Torrey.* *Shore Polygonum.*

Coon Chisholm's. Schenectady, *Pearson.* Borders of a millpond near Winfield. Along the outlet of Owasco lake, *I. H. Hall.* Cayuga lake, *Gray.* Frequent. July – September.

NODOSUM, *Persoon.* *Nodding Polygonum.*

var. INCARNATUM, *Gray.* *Flesh-colored Polygonum.*

Low banks of the Mohawk. Infrequent. August – October.

PENNSYLVANICUM, *L.* *Pennsylvanian Polygonum.*

Brooksides, marshes. Abundant. July – October.

CAREYI, *Olney.* — *Discovered by* J. CAREY.
Upland swamps. Abundant in the half-open mossy bogs north of Summit lake, Otsego county. Marshy borders of Mud lake, south Herkimer county. Rare. September, October.

*PERSICARIA*, L. — *Peach-leaved Polygonum.*
Waste grounds, near dwellings. Common. July, August.

*HYDROPIPER*, L. — *Water-pepper Polygonum.*
Ditches, marshy places. Common. August – October.

ACRE, *H. B. K.* — *Pungent Polygonum.*
Water-sides. Abundant in the marshes along the outlet of Cayuga lake. Swamp near Owasco lake, *I. H. Hall.* Infrequent. July, August.

HYDROPIPEROIDES, *Michx.* — *Water-pepper-like Polygonum.*
Wet banks. Shores of Onondaga lake. Uncommon. August – November.

AVICULARE, *L.* — *Little-bird's Polygonum.*
Paths, yards. Common. June – September.

var. ERECTUM, *Roth.* — *Upright Polygonum.*
Damp wastes. Common. July – October.

ARTICULATUM, *L.* — *Jointed Polygonum.*
Sandy plains. West of Albany, *Eaton, Beck, Torrey.* Schenectady, *Pearson.* Shore of Oneida lake, *Gray, Torrey Fl. N.Y.* Sandy borders of Oneida lake, *Knieskern.* Rare. July – October.

VIRGINIANUM, *L.* — *Virgate Polygonum.*
Rich woods, flats of streams. Common. July – September.

ARIFOLIUM, *L.* — *Arum-leaved Polygonum.*
Wet thickets. Abundant. August, September.

SAGITTATUM, *L.* — *Arrow-leaved Polygonum.*
Swamps. Common. July – October.

*CONVOLVULUS*, L. — *Bindweed Polygonum.*
Barren and cultivated grounds. Common. July – September.

CILINODE, *Michx.* — *Fringe-jointed Polygonum.*
Damp thickets, on the Deerfield hills. Infrequent. July, August.

DUMETORUM, *L.* — *Thicket Polygonum.*
Banks of streams, bushes. Abundant. August, September.

FAGOPYRUM, *Tournefort.* — *Buckwheat.*

*ESCULENTUM*, Mœnch. — *Esculent Fagopyrum.*
Field-borders, woods, and often in deep swamps. Frequent. June – August.

RUMEX, *L.* — *Docks.*

VERTICILLATUS, *L.* — *Whorled-flowered Rumex.*
Bogs on the flats of the Mohawk. Throughout the upland swamps south of the Mohawk valley, *Gray.* Frequent. June, July.

HYDROLAPATHUM, *Hudson.* — *Water-dock Rumex.*

var. AMERICANUM, *Gray.* — *American Water-dock Rumex.*
Marshes, both on the hills, and in lowlands of rivers and lakes. Frequent. July.

*OBTUSIFOLIUS*, L. *Obtuse-leaved Rumex.*
Farmyards, fences, borders of woods. Common. June, July.

*CRISPUS*, L. *Curled-leaved Rumex.*
Ditches, fields. Common. May – July.

*SANGUINEUS*, L. *Bloody-veined Rumex.*
Barnyards, pastures. Scarce. June, July.

*ACETOSA*, L. *Garden-sorrel Rumex.*
Cultivated grounds. About gardens on Paris hill. Penn-Yan, introduced, *Sartwell in herb. Ham. Coll.* Infrequent. June, July.

*ACETOSELLA*. L. *Sheep-sorrel Rumex.*
Barren meadows, pastures. Common. May – July.

## LAURACEÆ. *Laurels.*

SASSAFRAS, *Nees von Esenbeck.* *Sassafras.*

OFFICINALE, *Nees.* *Officinal Sassafras.*
Sandy open woods. Abundant in the woods and copses of Schenectady county. Pine plains of Rome, at the head of Oneida lake. Penn-Yan, *Sartwell in herb. Ham. Coll.* Frequent. April, May.

BENZOIN, *Nees von Esenbeck.* *Spicebush. Feverbush.*

ODORIFERUM, *Nees.* *Fragrant Benzoin.*
Damp copses, swamps. Common. April.

## THYMELEACEÆ. *Daphnads.*

DIRCA, *L.* *Leatherwood.*

PALUSTRIS, *L.* *Marsh Dirca.*
Flats of streams, deep woods. Abundant. April.

## ELÆAGNACEÆ. *Oleasters.*

SHEPHERDIA, *Nuttall.* *Shepherdia.*

CANADENSIS, *Nutt.* *Canadian Shepherdia.*
Ravine-sides, rocky banks of streams. Fairfield. Herkimer county, *Gray.* Trenton falls, West-Canada creek, *Knieskern.* Deerfield creek opposite Utica, high on the slaty sides of the gulf, from its entrance far up the headwaters of the stream. East banks of Onondaga lake. Rocky sides of Black river. Frequent. May.

## SANTALACEÆ. *Sandalwoods.*

COMANDRA, *Nuttall.*

UMBELLATA, *Nutt.* *Umbellate Comandra.*
Dry rocky banks; open sandy woods and their borders. Throughout the valley of the Mohawk, from Schenectady to Oneida lake. Frequent.

A form occurs in the swamp of West-Bergen, Genesee county, in open places of damp moss or wet marl, in company with *Solidago ohiensis, S. houghtonii*, and among the running stems of *Juniperus sabina*, having large ovate obtuse glaucous leaves, often nearly two inches long by over half an inch wide; bearing flowers and fruit on short pedicels, in a leafy terminal simple raceme; berries large, fleshy, yellow or red, instead of the dry hard black nutlets of the common plant.

It was first thought to be *C. livida*, but is still undetermined. June.

## SAURURACEÆ. *Saururads.*

SAURURUS, *L.* *Lizard's-tail.*

CERNUUS, *L.* *Nodding Saururus.*

Swamps and water-sides. Borders of Oneida lake, *Knieskern, Gray.* Low woods east of Onondaga lake. Swamps southeast of Oswego. Banks of streams between Syracuse and Savannah, Cayuga river marshes. Owasco lake outlet, *I. H. Hall.* Common along Clyde river. Frequent. July, August.

## CERATOPHYLLACEÆ. *Hornworts.*

CERATOPHYLLUM, *L.* *Hornwort.*

DEMERSUM, *L.* *Submerged Ceratophyllum.*

var. ECHINATUM, *Gray.* *Rough Ceratophyllum.*

Slow-flowing or still water. Outlet of Canaderaga lake, where it flowers and fruits readily. Penn-Yan, *Sartwell in herb. Ham. Coll.* Infrequent. June, July.

## CALLITRICHACEÆ. *Water-starworts.*

CALLITRICHE, *L.* *Water-starwort.*

VERNA, *L.* *Vernal Callitriche.*

Still water beside streams, ponds. Frequent.

forma TERRESTRIS, *Engelmann.* *Moss Callitriche.*

Muddy banks. Millpond at Cedarville. Uncommon, June – August.

AUTUMNALIS, *L.* *Autumnal Callitriche.*

River borders. Borders of Canaderaga lake outlet. Alexandria bay, *G. W. Clinton.* Rare. August.

## PODOSTEMACEÆ. *River-weeds.*

PODOSTEMON, *Michaux.* *River-weed.*

CERATOPHYLLUM, *Michx.* *Horn-leaved Podostemon.*

Stony bottoms of streams. In flowing water, Watertown, Jefferson county, *Crawe. Gray in Rare plants of Northern N.Y.* Watertown, *Crawe in herb. Sartwell Ham. Coll.* Rare. July, August.

## EUPHORBIACEÆ. *Spurges.*

EUPHORBIA, *L.* *Spurges. Euphorbia.*

POLYGONIFOLIA, *L.* *Polygonum-leaved Euphorbia.*

Shores. Mouth of Genesee river, *Sartwell in herb. Ham. Coll.* Lake shore at Charlotte, *C. M. Booth.* Rare. July – September.

MACULATA, *L.* *Spotted-leaved Euphorbia.*

Roadsides, banks of streams. Common. July – October.

HYPERICIFOLIA, *L.* *Hypericum-leaved Euphorbia.*

Damp gravelly places, hillsides. Common. July – September.

*HELIOSCOPIA*, L. *Sun-gazing Euphorbia.*

Shores of Onondaga lake; most abundant at its head, Salina. Rare. July – October.

PLATYPHYLLA, *L.* *Broad-leaved Euphorbia.*

Pastures, roadsides. Winfield, south Herkimer county. Paris hill. Clark's mills, towards Pratt's settlement. Occasional. June – September.

ACALYPHA, *L.* — *Three-seeded Mercury.*

VIRGINICA, *L.* — *Virginian Acalypha.*

Roadsides, moist grounds. Common. August – October.

## URTICACEÆ. — *Nettles.*

ULMUS, *L.* — *Elms.*

FULVA, *Michx.* — *Slippery, Red Elm.*

Open hilly woods along rivulets, and banks of streams. Common along the Mohawk. Frequent. April.

AMERICANA, *L.* — *White, American Elm.*

Woods, hills and dales. Common. April.

RACEMOSA, *Thomas.* — *Corky, Racemed Elm.*

Brows of ravines, river-banks. Abundant along the Mohawk and its tributaries. April.

CELTIS, *Tournefort.* — *Nettletree. Sugarberry.*

OCCIDENTALIS, *L.* — *Western Celtis.*

Rocky woods and banks. Near Oneida lake, *Knieskern.* Gorham, Ontario county, *Sartwell.* Rare. April, May.

MORUS, *Tournefort.* — *Mulberries.*

RUBRA, *L.* — *Red Mulberry.*

Open woods. Near the Aqueduct, Schenectady, *Pearson.* Penn-Yan, Yates county, *Sartwell in herb. Ham. Coll.* Scarce. May.

*ALBA*, L. — *White Mulberry.*

Woods, and about houses, *Knieskern.* Frequent in Schenectady county, in thickets along road-fences, and often a tree. Penn-Yan, introduced, *Sartwell in herb. Ham. Coll.* Occasional. May.

URTICA, *Tournefort.* — *Nettles.*

GRACILIS, *Aiton.* — *Tall, Slender Nettle.*

Fences, river-banks. Common. July, August.

*DIOICA*, L. — *Dicœcious Nettle.*

Waste places. Schenectady, *Pearson.* Oneida county, *Knieskern.* Gorham, Ontario county, *Sartwell.* Uncommon. June – August.

LAPORTEA, *Gaudich.* — *Wood Nettle.*

CANADENSIS, *Gaud.* — *Canadian Laportea.*

Ravines and damp woods. Common. July.

PILEA, *Lindley.* — *Clearweed.*

PUMILA, *Gray.* — *Low Pilea.*

Shaded springy banks; borders of streams in wooded ravines. Common. July, August.

BŒHMERIA, *Jacquin.* — *False Nettle.*

CYLINDRICA, *Willd.* — *Cylindric-fruited Bœhmeria.*

Swamps and wet open woods. Frequent. July, August.

PARIETARIA, *Tournefort.* — *Pellitory.*

PENNSYLVANICA, *Muhl.* — *Pennsylvanian Parietaria.*

Shady hillsides; rocky sides of streams. Ithaca, Tompkins county, *Sartwell in herb. Ham. Coll.* Rare. May – July.

CANNABIS, *Tournefort.* *Hemp.*

SATIVA, L. *Cultivated Cannabis.*

Waste lots in cities, towns. Frequent. June – August.

HUMULUS, *L.*

LUPULUS, *L.* *Hop-vine.*

Shaded banks of the Mohawk and Unadilla rivers. Frequent. July.

## PLATANACEÆ. *Sycamores.*

PLATANUS, *L.* *Plane-tree. Button-ball-tree. Buttonwood.*

OCCIDENTALIS, *L.* *Western-world Platanus.*

Banks of creeks and rivers. Common. May.

## JUGLANDACEÆ. *Walnuts.*

JUGLANS, *L.*

CINEREA, *L.* *Butternut. Gray Walnut.*

Hilly woods; flats of streams. Abundant. May.

NIGRA, *L.* *Black Walnut.*

Fertile woodlands. Common around Seneca lake, *Sartwell.* Scarce. May.

CARYA, *Nuttall.* *Hickories.*

ALBA, *Nutt.* *Shag-bark, White Hickory.*

Fertile woodlands and vallies. Abundant in the valley of the Hudson about Albany. Around Otsego lake, *Miss S. Cooper.* Borders of Canaderaga lake. Valley of the Mohawk throughout, from the Hudson to Oneida lake. Frequent. May.

TOMENTOSA, *Nutt.* *Mocker-nut. Downy Hickory.*

Rich woods. Schenectady county, *Pearson.* Oneida county, *Knieskern.* Infrequent. May.

GLABRA, *Torrey.* *Smooth Hickory.*

Chiefly in meadows, pastures. Abundant. May.

AMARA, *Nutt.* *Swamp, Bitter Hickory.*

Low woods, ravine-sides, streams. Common. May.

## CUPULIFERÆ. *Oaks.*

QUERCUS, *L.*

MACROCARPA, *Michx.* *Over-cup, Large-fruited Oak.*

Groves, water-sides. Abundant along the borders of Onondaga lake, west side. Scarce. Fl. May: Fr. September.

var. OLIVÆFORMIS, *Gray.* *Mossy-cup, Olive-formed Oak.*

River-banks; of the Hudson above Albany, and in the western part of the State, *Michaux.* Glenville near Schenectady, *Pearson.* Dexter, Jefferson county, *Vasey.* Rare.

OBTUSILOBA, *Michx.* *Post, Round-lobed Oak.*

Sandy woods. Schenectady, along the College brook; woods beyond the junction of the Central and Saratoga railroads, *Pearson.* Rare.

ALBA, *L.* *White Oak.*

Hilly woods. Frequent.

PRINUS, *L.*

var. DISCOLOR, *Michx.* *Two-colored-leaved Oak.*

Low woods. Flats of the Mohawk. West side of Onondaga lake. Abundant.

CASTANEA, *Willd.* *Chestnut-leaved Oak.*

Elevated woodlands. Chemung county, *Knieskern, Torrey Fl. N.Y.* Rare.

var. MONTICOLA, *Michx.* *Mountain-dwelling Oak.*

Rocky hillsides and banks. Schenectady county, *Pearson.* Highlands of the Mohawk, *E. W. Paige.* Penn-Yan, *Sartwell in herb. Ham. Coll.* Infrequent.

PRINOIDES, *Willd.* *Chinquapin. Prinus-like Oak.*

Pine plains of Schenectady, *Pearson.* Scarce.

ILICIFOLIA, *Wangenheim.* *Scrub, Ilex-leaved Oak.*

Pine plains of Rome. Abundant.

TINCTORIA, *Bartram.* *Quercitron. Dyeing Oak.*

Fertile woods. Schenectady, *Pearson.* Otsego county, *Miss S. Cooper : H. Lathrop.* Yates county, *Sartwell in herb. Ham. Coll.* Uncommon.

COCCINEA, *Wang.* *Scarlet Oak.*

Hillsides. Schenectady, *Pearson.* Around Otsego lake, *Miss S. Cooper.* Penn-Yan, *Sartwell in herb. Ham. Coll.* Frequent.

RUBRA, *L.* *Red Oak.*

Woods. Common.

PALUSTRIS, *Du Roi.* *Swamp Oak.*

Borders of swamps, flats of streams. Schenectady, *Pearson.* Occasional.

CASTANEA, *Tournefort.* *Chestnut.*

VESCA, *L.* *Edible-fruited Chestnut.*

Hillsides. Frequent. July.

FAGUS, *Tournefort.* *Beech.*

FERRUGINEA, *Aiton.* *Rusty-leaved Fagus.*

Woods. Common. May.

CORYLUS, *Tournefort.* *Filberts. Hazelnuts.*

AMERICANA, *Walter.* *American Corylus.*

Low woods, river-banks. Common in the valley of the Mohawk. April.

ROSTRATA, *Aiton.* *Beaked Corylus.*

Thickets along streams. Schenectady, Montgomery and Otsego counties. Rocky banks of Seneca lake, *Vasey.* Banks of Owasco lake outlet, *I. H. Hall.* Yates county, *Sartwell in herb. Ham. Coll.* Infrequent. April.

CARPINUS, *L.* *Water Beech.*

AMERICANA, *Michx.* *American Carpinus.*

Ravine-sides. Common. April.

OSTRYA, *Micheli.* *Hop-hornbeam. Lever-wood. Iron-wood.*

VIRGINICA, *Willd.* *Virginian Ostrya.*

Moist open woods. Common. May.

## MYRICACEÆ. *Sweet-gales.*

MYRICA, *L.* *Sweet-gale.*

GALE, *L.* *Helmeted-fruited Myrica.*

Cold marshes, near Summit lake, Springfield. Otsego county, where it abounds. Mud lake, south Herkimer county. Common on the margins of streams and lakes in the north woods. April.

CERIFERA, *L.* *Bayberry. Wax-bearing-fruited Myrica.*

Sandy shores. Junius, *Sartwell in herb. Ham. Coll.* Rochester, *C. Dewey.* Parma, Monroe county. *Bradley.* Abundant in the swamps of West-Bergen, northeastern Genesee county. Rare. May.

COMPTONIA, *Solander.* *Sweet-fern.*

ASPLENIFOLIA, *Aiton.* *Asplenium-leaved Comptonia.*

Hillsides and sandy plains. Pine woods of Schenectady county, *Pearson.* Otsego county, *Miss S. Cooper.* Plains of Rome and Oneida lake. Frequent. April, May.

## BETULACEÆ. *Birches.*

BETULA, *Tournefort.*

ALBA, var. POPULIFOLIA, *Spach.* *White, Poplar-leaved Birch.*

Barren or sandy soils. Plains and swamps between Albany and Schenectady. Otsego county, *Miss S. Cooper.* Abundant on the pine plains of Rome. Dry banks of the Black river. Frequent. April.

PAPYRACEA, *Aiton.* *Paper Birch.*

Banks of streams. Helderberg mountains, *Pearson.* Along the Black river below Dexter, Jefferson county, *Vasey.* Rare.

NIGRA, *L.* *Black Birch.*

Banks of streams. Deerfield creek. Fish creek. Scarce.

EXCELSA, *Aiton.* *Yellow, Lofty Birch.*

Damp woods. Common.

LENTA, *L.* *Cherry, Pliant Birch.*

Ravines. Frequent.

ALNUS, *Tournefort.* *Alders.*

INCANA, *Willd.* *Hoary Alder.*

Upland marshes on the hills south of the Mohawk valley. Summit lake, Springfield; where it is very low, only a foot or two high, on the open bog land. Borders of Canaderaga lake and its outlet, Exeter, Otsego county. From Mud lake, to the State marsh, south Herkimer county. Infrequent. March, April.

SERRULATA, *Aiton.* *Serrulate Alder.*

Streams, swamps. Common.

VIRIDIS, *DC.* *Green Alder.*

Northern watercourses. Among the headwaters and on the banks of Moose river, north Herkimer and Hamilton counties. Rare.

## SALICACEÆ. *Willows.*

### SALIX, *Tournefort.* *Salices.*

CANDIDA, *Willd.* *Hoary Willow.*

Cold swamps. Summit lake borders, Otsego county. Mud lake, State marsh, Hidden lake, Litchfield, south Herkimer county. Junius, Seneca county, *Sartwell.* West-Bergen, Genesee county. Rare. May.

TRISTIS, *Aiton.* *Mourning Willow.*

Dry open woods. Infrequent.

HUMILIS, *Marshall.* *Low Willow.*

Borders of thickets and swamps. Pine plains of Rome. Frequent.

DISCOLOR, *Muhl.* *Glaucous, Two-colored Willow.*

Banks of streams. Common.

SERICEA, *Marshall.* *Silky-leaved Willow.*

Low grounds, water-sides. Borders of swamp-rivulets near Point of Rock pond, and in the northern part of the county. Yates county, *Sartwell in herb. Ham. Coll.* Scarce.

PETIOLARIS, *Smith.* *Petioled Willow.*

River-banks. Occasional on the low alluvial banks of the Mohawk. Penn-Yan, *Sartwell in herb. Ham. Coll.* Uncommon.

CORDATA, *Muhl.* *Heart-leaved Willow.*

Low river-banks. Penn-Yan, *Sartwell in herb. Ham. Coll.* Frequent.

ROSTRATA, *Richardson.* *Long-beaked Willow*

Borders of swamps. Steep springy banks of the Oriskany creek. Rome, *Knieskern, Torrey Fl. N.Y.* Infrequent.

*ALBA*, L. *White Willow.*

Low grounds, wet banks. Common.

*FRAGILIS*, L. *Brittle Willow.*

Water-sides. Starch-factory creek. Headwaters of the Deerfield creek. Banks of the Mohawk and its tributaries. Uncommon.

NIGRA, *Marshall.* *Black Willow.*

Banks of creeks, rivers. In force on the alluvial banks of the Mohawk. Common.

LUCIDA, *Muhl.* *Shining Willow.*

Low banks. Borders of Hidden lake, Litchfield, south Herkimer county; and all the cold marshes on the hills. Yates county, *Sartwell in herb. Ham. Coll.* Infrequent.

*BABYLONICA*, Tourn. *Weeping Willow.*

Streets, lawns, graveyards. Frequent.

LONGIFOLIA, *Muhl.* *Long-leaved Willow.*

Sandy banks. Albany, *Beck in herb.* Genesee falls, *Aiken in herb. Sartwell Ham. Coll.* Scarce.

PEDICELLARIS, *Pursh.* *Pedicel-fruited Willow.*

Sphagnum swamps. In the cold open bogs north of Summit lake, Otsego county. Abundant on the State marsh and around Hidden lake, Litchfield, south Herkimer county. Oriskany swamp formerly, *Knieskern.* Cold marshes in the northwestern part of the county, and throughout the north woods. Junius, Seneca county, *Sartwell in herb. Ham. Coll.* Rare.

POPULUS, *Tournefort.* *Poplars. Aspen.*

TREMULOIDES, *Michaux.* *Tremula-like Populus.*

Sides of hills and ravines. Common. April.

GRANDIDENTATA, *Michx.* *Large-toothed-leaved Populus.*

Woods and river-banks. Most frequent on sandy soils. Abundant.

MONILIFERA, *Aiton.* *Cottonwood. Necklace-bearing Populus.*

Water-sides. Western part of the State, particularly near Oneida lake and along the Genesee river. *Torrey Fl. N.Y.* Pillar point near Dexter, Jefferson county, *Vasey.* Near Rochester, *C. M. Booth.* Rare.

BALSAMIFERA, *L.* *Balsam-bearing Populus.*

Water-courses, swamps. Near Oriskany, *Knieskern.* Scarce.

var. CANDICANS, *Gray.* *White-leaved Populus.*

Streets and near dwellings; a common shade tree.

NIGRA, *Michx.* *Black Populus.*

Banks. Oriskany creek, and near Oneida lake, *Knieskern.* Rare.

*DILATATA*, Aiton. *Lombardy Poplar. Dilated-leaved Populus.*

Roadsides; near old farm-houses. Infrequent.

*ALBA*, L. *White Populus.*

Occasional as a shade tree; extending by root, to fences and roadsides Frequently.

## 2. GYMNOSPERMÆ. *Gymnosperms.*

### CONIFERÆ. *Conifers.*

PINUS, *Tournefort.* *Pines.*

RESINOSA, *Aiton.* *Red, Resinous Pine.*

Hills. Helderberg mountains three miles south of Knowerville, *Pearson.* Pine plains of Rome, *Vasey.* Yates county, *Sartwell in herb. Ham. Coll.* May. Rare.

RIGIDA, *Miller.* *Pitch, Rigid Pine.*

Sandy plains. Schenectady. Rome. Common. May.

STROBUS, *L.* *White Pine. From an ancient Fir.*

Cold woods. Swamps on the flats of the Mohawk. Frequent in Schenectady, Montgomery and Otsego counties. Lingering still in marshes on the hills: formerly abounding throughout this region. Not yet exhausted in the swamps of Rome and Oneida lake. Common in the forests of the north woods. May.

ABIES, *Tournefort.* *Spruces.*

BALSAMEA, *Marshall.* *Balsam-yielding Fir.*

Cold swamps. Occasional in upland marshes, south of the Mohawk valley, from Summit lake and the outlet of Canaderaga lake, Otsego county, through the swamps near Jordanville, to the State marsh and Graefenberg swamp, south Herkimer county. Between Oriskany and Rome. Abundant in the northern part of the county; and common along streams and shores in the north woods, often nearly covered with long gray lichens. June.

CANADENSIS, *Michx.* *Hemlock.*

Dry woods. Common. May.

NIGRA, *Poiret.* *Black Spruce.*

Deep woods on the hills: on the level borders of sphagnum ponds. Frequent along Fish creek, above the cliffs. Common in the northern forests.

The low dwarf form, in bogs and holes, is called by lumbermen *Bastard Spruce.* This and the *Tamarack* are the first trees that take root in shaking moss, either as it extends into the water of ponds, or after it has completed the covering. They are closely followed and displaced by *Arbor vitæ;* which at length develop the deep black soil-bottoms of cedar swamps.

Frequent. May.

ALBA, *Michx.* *White Spruce.*

Open upland woods. Frankfort hill. Northern wilderness. May.

LARIX, *Tournefort.* *Larch. Tamarack.*

AMERICANA, *Michx.* *American Larix.*

Borders of swamps and marshes. Throughout the valley of the Mohawk, but more abundant along the south range of hills, around the ponds and lakes, or occasionally alone covering tracts of low land. Also from the northern part of the county, northward. Abundant. May.

THUJA, *Tournefort.* *Arbor-vitæ.*

OCCIDENTALIS, *L.* *American, Western Thuja.*

Cold swamps. From northern Otsego county, Summit lake; southern Herkimer county, Mud lake, Cedarville, Hidden lake, Cedar lake; Oneida county, throughout the valley of the Mohawk; Madison and Onondaga counties; northward. Common. April.

JUNIPERUS, *L.* *Junipers.*

COMMUNIS, *L.* *Common Juniper.*

Sandy woods, barren banks. North side of the Mohawk valley, from Schenectady to Littlefalls. Sides of the Black river below Watertown. Frequent in the north woods. Scarce. May.

VIRGINIANA, *L.* *Red Cedar.*

Rocky woods, dry sidehills. Abundant in the valley of the Mohawk, through Schenectady and Montgomery counties. Seneca lake, *Gray.* Greece, Monroe county, *Bradley.* Frequent. April.

SABINA, *L.* *European Savin.*

var. PROSTRATA. *Low Savin. Prostrate Juniperus.*

Swamps and shores. Borders of cold ponds in the north woods. Chemung county, *Knieskern in herb. Sartwell Ham. Coll.* Banks of the Genesee river, Greece, *Bradley.* Abundant in the Bergen swamp, Genesee county; often covering the ground, and running to great length.

Leavds four-ranked, oval, acute; at the end of the stem, opposite, cuspidate: sterile flowers in erect ovoid catkins, borne on the ends of little branches: fertile catkins of several scales becoming fleshy and uniting in a berry, glaucous at first, blue-black when ripe, two- to four-seeded, borne on short recurved pedicels, which is the determining characteristic of the species.

In open places, stems run several feet, rooting as they go: branches curving upwards three to eight inches; but where the plants are crowded in patches, they rise twelve to eighteen inches. Rare. May.

TAXUS, *Tournefort.* *Yew.*

BACCATA, *L.*, var. CANADENSIS, *Gray.* *American Taxus.*

Moist banks of woods and ravines, in deep evergreen shade. Common.

Sometimes erect, with a tree-like stem and spreading branches, five or six feet in height: borders of the Paris hill swamp. April.

## II. MONOCOTYLEDONÆ. *Monocotyledons.*

### ARACEÆ. *Arums.*

ARISÆMA, *Martius.* *Indian Turnip.*

TRIPHYLLUM, *Torrey.* *Three-leaved Arisæma.*

Ravine-sides, moist woods. Common. May.

DRACONTIUM, *Schott.* *Dragon Arisæma.*

Damp thickets on the flats of the Mohawk. Frequent. May.

PELTANDRA, *Rafinesque.* *Arrow-leaved Arum.*

VIRGINICA, *Raf.* *Virginian Peltandra.*

Swamps, sides of streams. Frequent. June, July.

CALLA, *L.* *Wild Calla.*

PALUSTRIS, *L.* *Marsh Calla.*

Bogs, streams ponds. Frequent. Common on Graefenberg hill. Often with two, and sometimes three spathes surrounding one spadix. May – August.

SYMPLOCARPUS, *Salisbury.* *Skunk Cabbage.*

FŒTIDUS, *Salisb.* *Fetid Symplocarpus.*

Low meadows, swamps. Common. March, April.

ORONTIUM, *L.* *Golden-club.*

AQUATICUM, *L.* *Floating Orontium.*

Borders of a pond in Gilbertsville, Otsego county, *H. Lathrop in herb.* The specimen of this plant is clear, and that it was gathered within the limits of a botanical walk from this place is certain. The station, however, is wonderfully inland for a plant usually found around ponds near the coast and in river-marshes of tide-water, being nearly four hundred miles up the Susquehanna valley. Rare. May.

ACORUS, *L.* *Sweet-flag.*

CALAMUS, *L.* *Reed Calamus.*

Rivulet-marshes. Common. June.

### TYPHACEÆ. *Typhads.*

TYPHA, *Tournefort.* *Cat-tails.*

LATIFOLIA, *L.* *Wide-leaved Typha.*

Swamps. Common. June, July.

ANGUSTIFOLIA, *L.* *Narrow-leaved Typha.*

Common around Onondaga lake and west of Syracuse. June.

SPARGANIUM, *Tournefort.* *Bur-reeds. Sparganium.*

EURYCARPUM, *Engelmann.* *Broad-fruited Sparganium.*

Lake and river borders. Abundant along the outlet of Canaderaga lake, Exeter, Otsego county. Probably not uncommon on the flats of the Mohawk. Its habit alone would distinguish this species, the plant being as large again in all its parts as the following. August, September.

RAMOSUM, *Hudson.* *Branched-headed Sparganium.*

Marshes along streams. Common. July, August.

SIMPLEX, *Hudson* — *Single-headed Sparganium*

Margins of ponds, lakes. Frequent. July.

NATANS, *L.* — *Floating Sparganium.*

Slow-flowing brooks. On the flats of the Mohawk, a mile or two below Utica. Rare. July.

ANGUSTIFOLIUM, *Michx.* — *Narrow-leaved Sparganium.*

Margins of cold springs and high ponds in the northern part of Herkimer county. Rare. July.

## LEMNACEÆ. — *Duckmeats.*

### LEMNA, *L.*

TRISULCA, *L.* — *Ivy-leaved, Three-parted Lemna.*

Still water. Pond on the flats below Utica. Alexandria bay. Gates, Monroe county, found in flower by *C. M. Booth.* Uncommon. June.

MINOR, *L.* — *Little Lemna.*

Stagnant water. Common.

POLYRRHIZA, *L.* — *Many-rooted Lemna.*

Ponds. Frequent.

GIBBA, *L.* — *Convex-leaved Lemna.*

Ditches and stagnant waters; observed in flower, near Liverpool in the western part of New-York State, *Pursh.* Onondaga lake. Rare.

## NAJADACEÆ. — *Najads.*

### NAJAS, *L.*

MAJOR, *Allioni.* — *Greater Najas.*

Borders of Onondaga lake. Discovered by G. W. CLINTON, in October 1864, growing in a stream emptying into the lake near Liverpool.

It abounds, however, in the lake, in water ten to twenty-five feet deep; most luxuriantly along the edge of a sudden descent of the bottom, at a distance from shore. When the water is clear and still, the plants can be seen growing on the bottom, branching in all directions from the root. But the best specimens come from the deepest water, out of sight; some clusters of which are three feet in length, and these only fragments broken off by storms.

At least three forms occur. The common one is entirely unarmed, without spines either on stems or leaves; perhaps the var. *angustifolia*, BRAUN, observed by CHAMISSO at Oahu, Sandwich Islands.

Another corresponds with the normal form described by Prof. ALEXANDER BRAUN: Stem sparingly beset with spines (10–40 in each internode); leaves broad-linear, each edge of the blade with 4 – 8 teeth, which are patent and not quite so long as the leaf is broad, the leaf at the back furnished with 1 – 4 spines; sheath of leaf with rounded lateral edges, and without teeth; fruit 5 – 8 millimetres long.— Florida, CABANIS.

A small form occasionally appears, about half the size of the first in all the parts and fruit.

The above habitats, with our own, are the only stations of this plant known on the American continents: it is widely distributed over the Old world. Local. August – November.

FLEXILIS, *Rostkov & Schmidt.* — *Bending Najas.*

Lakes, rivers. Outlet of Canaderaga lake, Otsego county. Lake Ontario. Cape Vincent, head of the St. Lawrence, *Bradley.* Abundant in the river south of Oswego. Crooked lake, *Sartwell.* Infrequent. July – September.

ZANNICHELLIA, *Micheli.* *Horned Pondweed.*

PALUSTRIS, *L.* *Marsh Zannichellia.*

Rivulets, marshy shores. Salina and Onondaga lake. Near Penn-Yan, *Sartwell.* Rare. August – October.

RUPPIA, *L.* *Tassel Pondweed.*

MARITIMA, *L.* *Seaside Ruppia.*

Borders of Onondaga lake along the east side. It is fruitful in shallow water, two to five feet in depth.

In deep water, in company with *Najas major*, a very large form grows, many feet in length, bearing wide leaves, but flowerless and fruitless.

This plant and its companion are new to the interior, having been known hitherto as exclusively maritime. Their presence here is proof, first, that the sea originally came up to or covered the place; and second, that these plants were flourishing at that time. July – November.

POTAMOGETON, *Tournefort.* *Pondweeds.*

PECTINATUS, *L.* *Pectinate-leaved Potamogeton.*

Rivers and lakes. Albany, *Beck.* Schenectady, *Pearson.* Near Watertown, *Gray, Torrey Fl. N. Y.* Pools along Oriskany creek. Abundant in Onondaga lake. Crooked lake, *Sartwell.* Rare.

ROBBINSII, *Oakes.* *Discovered by* ROBBINS.

Ponds. At the head of Onondaga lake, in the inlet of the creek. Rare.

PUSILLUS, *L.* *Small Potamogeton.*

Borders of lakes, standing waters. East Dry-lot pond, south Herkimer county. Crooked lake, Yates county, *Sartwell.* Rare.

PAUCIFLORUS, *Pursh.* *Few-flowered Potamogeton.*

Standing water along streams; canals. Common.

COMPRESSUS, *L.* *Flat-stemmed Potamogeton.*

Slow waters. Outlet of Canaderaga lake, Otsego county, where it abounds. Sander's lake and the Mohawk, *Pearson.* River St. Lawrence at Alexandria bay. Yates county, *Sartwell in herb. Hum. Coll.* Uncommon.

PERFOLIATUS, *L.* *Perfoliate Potamogeton.*

Canals, ponds. Common.

PRÆLONGUS, *Wulfen.* *Long-peduncled Potamogeton.*

Still deep water. Alexandria bay, Jefferson county, at the mouth of the creek: peduncles eighteen inches in length. Scarce.

LUCENS, *L.* *Shining-leaved Potamogeton.*

Bottoms of ponds in shallow water. Frequent.

var. FLUITANS, *Gray.* *Floating Potamogeton.*

Ponds in deep water. Abundant.

NATANS, *L.* *Swimming Potamogeton.*

Lakes, rivers. Common.

HETEROPHYLLUS, *Schreb.* *Various-leaved Potamogeton.*

Shallow ponds and borders of lakes. Head of Seneca lake, *Gray.* Common.

ALISMACEÆ. *Water-plantains.*

TRIGLOCHIN, *L.* *Arrow-grasses.*

PALUSTRE, *L.* *Marsh Triglochin.*

Boggy borders of Onondaga lake; at Salina, and northward beyond Liverpool. Abundant in water-covered places of moss or marl, in the West Bergen swamp, Genesee county. Rare. June – August.

MARITIMUM, *L.* — *Seaside Triglochin.*

Banks round Onondaga lake, most abundant on the south and east sides. Bogs in the swamp of West-Bergen. Rare. July – September.

ELATUM, *Nuttall.* — *Tall Triglochin.*

Cold high marshes among the hill-tops of the range south of the Mohawk valley. Most abundant at Mud lake, in the tamarack swamps near Jordanville, on the State marsh and Hidden lake, south Herkimer county.

More lofty than the largest of the preceding species, sometimes nearly four feet in height. Rare. June – September.

SCHEUCHZERIA, *L.* — *Scheuchzeria.*

PALUSTRIS, *L.* — *Marsh Scheuchzeria.*

Moss swamps. Summit lake. Mud lake. Hidden lake. Wetmore's pond, Frankfort hill. Bog near Oriskany. Abundant in the swamps of Rome. Common in the marshes of the northern part of the county, Point of Rock lake, North pond, and the north woods. May.

ALISMA, *L.* — *Water Plantain.*

PLANTAGO, *L.*, var. AMERICANUM, *Gray.* — *American Alisma.*

Ditches, bogs. Common. July, August.

SAGITTARIA, *L.* — *Arrowheads.*

VARIABILIS, *Engelmann.* — *Variable-leaved Sagittaria.*

Low grounds, water-sides : with manifold variations. Common. July, August.

HETEROPHYLLA, *Pursh.* — *Differing-leaved Sagittaria.*

Muddy banks. Frequent.

GRAMINEA, *Michaux.* — *Grass-leaved Sagittaria.*

Shores of streams, ponds. Banks of Oriskany creek. Borders of Oneida lake, *Knieskern.* Abundant along the outlet of the Eight lakes, north Herkimer county; and on Fourth lake it grows deeply submerged, in patches over the sandy bottom, having only short triangular leaves. Scarce. July, August.

## HYDROCHARIDACEÆ. — *Frogbits.*

LIMNOBIUM, *Richard.* — *American Frog's-bit.*

SPONGIA, *Richard.* — *Spongy-leaved Limnobium.*

Floating in a part of Braddock's bay, Greece, *Bradley.* Braddock's bay, *Sartwell in herb. Ham. Coll.* Local. August.

ANACHARIS, *Richard.* — *Water-moss.*

CANADENSIS, *Planchon.* — *Canadian Anacharis.*

Still water; brooks, rivers, lakes. Otsego lake. Canaderaga lake and its outlet. Throughout the Mohawk, in side-waters of the stream. Lake Ontario and the St. Lawrence river, flowering abundantly and beautifully at Alexandria bay. Common. August.

VALLISNERIA, *Micheli.* — *Tape-grass.*

SPIRALIS, *L.* — *Spiral-scaped Vallisneria.*

Rivers and slow streams. Abundant in the Mohawk river. Outlet of Canaderaga lake. Occasional in the Chenango canal. Outlet of Crooked lake, *Sartwell.* Uncommon. August.

## ORCHIDACEÆ. *Orchids.*

### ORCHIS, *L.*

SPECTABILIS, *L.* *Showy Orchis.*
Damp rich woods. Common. May.

### GYMNADENIA, *R. Brown.*

TRIDENTATA, *Lindley.* *Three-toothed-lipped Gymnadenia.*
Shady swamps. Abundant. July.

### PLATANTHERA, *Richard.*

OBTUSATA, *Lindl.* *Obtuse-leaved Platanthera.*
Mossy springy banks in the north woods, between Third lake and Bald rock, Herkimer county. Rare. July.

ROTUNDIFOLIA, *Lindley.* *Round-leaved Platanthera.*
var. OBLONGIFOLIA. *Oblong-leaved Platanthera.*

Upland, open, sphagnous level at the head of Mud lake, south Herkimer county; under scattered tamaracks and arbor vitæ, either among clusters of the young evergreens or in shade of their north side, in cold damp moss: accompanied by *Calypso borealis, Cypripedium arietinum, Eriophorum alpinum.* To be looked for on the extensive tamarack swamps south of Jordanville.

Roots three or four long toothed tubers : scape six to twelve inches high : leaf resting on the moss or settled in it, white cellular beneath as those of *P. orbiculata*, about ten-nerved, long elliptical or oblong, two inches broad by four to six in length; radical scapeless leaves still narrower, less than half as wide : spikes six- to twelve-flowered, bracts nearly as long as the ovaries : flowers large, lateral sepals spreading nearly three-fourths of an inch : spur shorter than the lip, slender, lying close to the capsule : lip half an inch long, sometimes oblong or rectangular and entire, with a wavy border, but usually more or less parted into lateral lobes and notched at the end, white with eight or ten purple spots : petals narrow, converging over the column, deep purple: lower sepals long ovate, white; upper one broad ovate, either curving over the petals or sometimes reflexed, veined and tinged with purple. A plant as beautiful as it is rare.

It has been found before only in Newfoundland, Isle of Anticosti at the mouth of the St. Lawrence, along the northeastern boundaries of Maine, and in the northern Rocky mountains; so that its presence south of latitude 43° is most remarkable. Local. June, July.

ORBICULATA, *Lindley.* *Orbicular-leaved Platanthera.*

Deep damp woods. Throughout the valley of the Mohawk. About Otsego lake, *Miss S. Cooper : B. D. Gilbert.* Most frequent on Frankfort hill, and among the headwaters of the Deerfield creek. Oriskany valley; Oriskany, Manchester, Clinton and College hill. Abundant in the north woods. Widely scattered, but scarce. July.

HOOKERI, *Lindl.* *Dedicated to* WILLIAM J. HOOKER.

Dry woods. Littlefalls, bushy cleared land on the summit of Fall hill, south of the Mohawk. Dense woods along hillsides east of Utica and Oriskany, *Knieskern.* Sandy evergreen-wooded ridges southwest of Whitesboro. Pine barrens along Wood creek, near New-London : abundant in Jefferson county, *Gray.* Scarce.

var. OBLONGIFOLIA. *Oblong-leaved Hooker's Platanthera.*

Steep banks of Fall hill at Littlefalls, between the tops of the cliffs and the brow of the high land.

Leaves four to six inches in length by two wide, narrowing toward the base into a clasping sheath, as in the var. of *P. rotundifolia.* Local. June.

BRACTEATA, *Torrey.* *Long-bracted Platanthera.*

Damp or wet woods. Along the Rolleboom of the Rotterdam hills, Schenectady county. Fairfield, Herkimer county, *Gray in Rare plants of Northern N.Y.* Frankfort hill. Not rare in southern Oneida county, Sangerfield; and Madison county, Brookfield, *Gray.* Yates county, *Sartwell in herb. Ham. Coll.* Infrequent. June.

HYPERBOREA, *Lindl.* *Northern Platanthera.*

Shady swamps. Common. July.

DILATATA, *Lindl.* *Dilated-lipped Platanthera.*

Cold marshes. Summit lake, Otsego county. Common at Mud lake, in the Jordanville swamps, on Hidden lake and the State marsh, south Herkimer county. Wet banks of Fish creek. Level borders of Point of Rock lake; and in all the sphagnum bogs of the northern part of the county. Throughout the north woods and the northern portion of the State.

Abundant. June – August.

FLAVA, *Gray.* *Yellow Platanthera.*

Wet woods, borders of swamps. Frequent. July.

CILIARIS, *Lindl.* *Ciliate-lipped Platanthera.*

Open swamps. West of Albany, *Beck bot.* Pine plains of Schenectady, *Pearson.* Junius, Seneca county, *Sartwell in herb. Ham. Coll.* Greece and Parma, Monroe county, *Bradley.* Infrequent. June, July.

BLEPHARIGLOTTIS, *Lindl.* *Lash-lipped Platanthera.*

Sphagnous swamps. Frankfort hill, around Wetmore's pond. South Trenton. Borders of Point of Rock lake. Two and three feet high. Rare.

var. HOLOPETALA, *Gray.* *Entire-petaled Platanthera.*

Open moss bogs of the north woods, a foot or less in height: frequent there, but not observed south of North pond, Boonville. July.

LACERA, *Gray.* *Ragged Platanthera.*

Wet meadows, streams, swamps. Frequent. July.

PSYCODES, *Gray.* *Butterfly-like-lipped Platanthera.*

Swampy woods, and meadows. Common. July, August.

FIMBRIATA, *Lindl.* *Soldier's-plume. Fringed-lipped Platanthera.*

Cold swamps. Delaware county, *B. D. Gilbert.* Otsego county, *Miss S. Cooper.* Marshes of northern Herkimer county, *W. Calverly.* Shady swamp west of Fort Bull, Rome.

In all respects, of character, size and time of flowering, the same as the eastern form. Rare. June.

GOODYERA, *R. Brown.* *Rattlesnake Plantains.*

REPENS, *R. Br.* *Creeping Goodyera.*

Dry ridges of ravines and their mossy sides, in the shade of hemlocks. Deerfield creek. Starch-factory creek. Cascade glen. South side of Point of Rock lake.

Rarely it is found in Cedar swamps, from Mud lake, where it grows side by side with *Calypso borealis*, through similar localities on both the hills and flats of the Mohawk, to the cold boggy woods of Rome. Common in southern Oneida county. *Gray.*

The same in size and character with the White mountain plant.

Frequent. July, August.

PUBESCENS, *R. Br.* *Pubescent-spiked Goodyera.*

Damp shaded hillsides. Schenectady county, *Pearson.* Otsego county, *B. D. Gilbert.* Schuyler hill, above Frankfort station. Banks of Oriskany creek, Pleasant valley. Abundant. July.

SPIRANTHES, *Richard.* *Ladies'-tresses.*

GRACILIS, *Bigelow.* *Slender Spiranthes.*

Hillsides, dry open woods. Sides of the Mohawk valley from Schenectady to Littlefalls. Pine plains of Rome, *Knieskern.* Around Oneida lake, *Gray.* Banks of the hill near the old fort, Oswego. Oak openings, Greece, Monroe county, *Bradley.* Frequent. July, August.

LATIFOLIA, *Torrey.* *Broad-leaved Spiranthes.*

Springy, grassy banks. Banks of West-Canada creek, Fairfield, Herkimer county, *Gray.* Oriskany, at the head of the raceway, along the sidehill. Opposite the village, on the north side of the Mohawk, scattered over the wet slope. Springy banks at the headwaters of Frankfort creek, between Wetmore's and Jerusalem hill. Rocky island in Black river, Rutland, Jefferson county, *J. G. Crocker.* Rare. June.

CERNUA, *Richard.* *Nodding Spiranthes.*

Marshes and wet meadows. Abundant. August, September.

LISTERA, *R. Brown.* *Twayblade.*

CORDATA, *R. Br.* *Heart-leaved Listera.*

Swamps, in wet moss and deep shade. Mud and Hidden lakes, south Herkimer county. Cedar swamps on the flats of the Mohawk, and the pine swamps beyond Rome. Paris hill swamp. Southern part of the county, *Gray.* Abundant. May, June.

ARETHUSA, *Gronovius.* *Arethusa.*

BULBOSA, *L.* *Bulbous Arethusa.*

Sphagnum marshes. Major Van Voost's fly, Schenectady, *Pearson.* Formerly on the flats of the Mohawk below Utica, and in the Oriskany swamp, *Gray.* In the extensive moss marsh beyond Fort Bull, and doubtless occasional throughout the swamps of Rome. Junius, Seneca county, *Sartwell in herb. Ham. Coll.* Borders of the West-Bergen swamp. Rare. May.

POGONIA, *Jussieu.* *Pogonias.*

OPHIOGLOSSOIDES, *Nuttall.* *Ophioglossum-like Pogonia.*

Swamps of sphagnum. Common.

A monstrosity of this plant has been gathered on Hidden lake, south Herkimer county. Several flowers were found, all having many petals nearly white, around three lips also white veined with purple, except their centers, which were covered with a heavy deep green beard.

The peculiarities of these flowers are that they have three labella, and that the column is resolved into small petaloid organs. The blossom is normal as to the proper perianth, except that the labellum is unusually papillose, bearded almost to the base. The points of interest are, first, that the two accessory labella are just in the position of the two suppressed stamens of the outer series viz. of $A^2$ and $A^3$, as represented in the diagram (DARWIN, Fertilization of Orchids, p. 292); and there is a small petaloid body on the other side of the flower, answering to the other stamen $A^1$. Secondly, in one of the blossoms, and less distinctly in another, two lateral stamens of the inner series, $a^1$ and $a^2$, are represented each by a slender naked filament. There are remaining petaloid bodies enough to answer for the third stamen of the inner series and for the stigmas, *Gray in Linn. Soc. Jour.* Also *Sill. Jour.*

Thus these developments, in some measure, reveal the complete or regular orchid structure. June, July.

PENDULA, *Lindl.* *Pendulous-flowered Pogonia.*

Damp woods in rich mould. Pine plains of Rome, *Knieskern.* Eaton, Madison county, on the hill south of Leland's upper pond, *Bradley.* Sheldrake point, Cayuga lake, *Gray.* Gorham, Ontario county, *Sartwell in herb. Ham. Coll.* Geneva, *J. Smith fide Carey in herb. Sartwell Ham. Coll.* Parma, Monroe county, *Bradley.* Rare. August.

VERTICILLATA, *Nutt.* — *Whorled-leaved Pogonia.*

Shady swamps. Schenectady, in the pine plains, *Pearson.* Oriskany swamp, *Vasey.* Mossy bogs on the plains of Rome, along the Watertown railroad. Rare. May.

CALOPOGON, *R. Brown.* — *Calopogon.*

PULCHELLUS, *R. Br.* — *Elegant Calopogon.*

Sphagnous marshes. Common.

White flowers occur in the swamp of West-Bergen, Genesee county. Rare. July.

CALYPSO, *Salisbury.* — *Calypso.*

BOREALIS, *Salisb.* — *Northern Calypso.*

Rich black soil on elevations in the arbor-vitæ swamp of Mud lake, south Herkimer county : probably the southern limit of the plant.

From a swamp a mile or two north of Lowville, Lewis county, gathered by a party of students, *F. B. Hough.* In evergreen woods along the north side of Black river below Brownville. *Vasey.* In both these localities plants were gathered many years ago, but have not been detected since, in either place, by most diligent search.

Hemlock woods bordering the extensive swamp in West-Bergen, Genesee county, *C. M. Booth.* Rare. May, June.

TIPULARIA, *Nuttall.* — *Cranefly Orchis.*

DISCOLOR, *Nutt.* — *Two-colored Tipularia.*

Open woods on the Ridge-side, Parma, Monroe county, *Bradley.* Rare. July.

MICROSTYLIS, *Nuttall.* — *Adder's-mouth.*

MONOPHYLLOS, *Lindley.* — *Single-leaved Microstylis.*

Shady bogs. Tamarack swamps between Jordanville and Page's corners, south Herkimer county. Bridgewater. *Gray in Rare plants of Northern N. Y.* Between Clark's mills and New-York mills. Cedar swamp near the Chenango canal, three miles southwest of Utica. Shady borders of Hidden lake, Litchfield. Borders of West-Bergen swamp. Rare. July.

LIPARIS, *Richard.* — *Twablade.*

LILIIFOLIA, *Richard.* — *Lily-leaved Liparis.*

Rich woods, banks of streams in shade. Rotterdam, Schenectady county, *Pearson.* Verona, *Knieskern.* Deep woods southeast of Clark's mills. Ovid, Seneca county, *Brewer et Chickering in herb. Sartwell Ham. Coll.* Scarce. June.

LŒSELII, *Richard.* — *In honor of* JOHN LŒSEL.

Water-sides, marshes. Borders of Mud lake; on the swamps near Jordanville; abundant in the shady borders and on the open marsh of Hidden lake; and wet banks of Cedar lake, south Herkimer county. Northwestern part of county, about Oneida lake, *Gray.* Rivulet-sides on the borders of the swamp in West-Bergen, Genesee county. Frequent. June, July.

CORALLORHIZA, *Haller.* — *Coral-roots.*

INNATA, *R. Br.* — *Spurless Corallorhiza.*

Wet moss in deep swamps, rarely in moist woods. Trenton falls. Cedar swamps on the flats of the Mohawk between Utica and Frankfort. Marsh on Starch-factory creek east of Utica. Swamps west of Whitesboro. Paris hill. Hidden lake borders. Tamarack marshes of Jordanville. Mud-lake moss swamp. Frequent. May, June.

MULTIFLORA, *Nutt.* — *Many-flowered Corallorhiza.*

Dry woods. Abundant. August.

ODONTORHIZA, *Nutt.* *Tooth-rooted Corallorhiza.*

Deep rich woods. Otsego county, *B. D. Gilbert.* Ravine bottoms among the head streams of Deerfield creek. Infrequent. July.

APLECTRUM, *Nuttall.* *Adam-and-Eve.*

HYEMALE, *Nutt.* *Winter-lasting Aplectrum.*

Damp woods in deep soil. College hill, Clinton. Foster's grove, New-Hartford. Woods on the Chenango canal, three miles southwest of Utica. Oriskany, *Knieskern.* Auburn, Cayuga county, *I. H. Hall.* Rochester, *C. Dewey.* Scarce. May.

CYPRIPEDIUM, *L.* *Lady's-slippers. Cypripedia.*

PUBESCENS, *Willd.* *Downy Cypripedium.*

Rich oak woodlands; cedar and black ash swamps. Common. May.

PARVIFLORUM, *Salisb.* *Small-flowered Cypripedium.*

Deep damp woods. Low woods on the flats of Oriskany creek, between Clinton and Manchester. Mohawk flats above Frankfort. Cedar swamp between Day's corners and Cedar lake, Litchfield; also the State marsh, Jerusalem, Herkimer county. Infrequent. May.

On the Rolle-boom of the Rotterdam hills, Schenectady county, a specimen has been gathered, having all parts of the flower single, except the lip, which is double. The two sacs are perfect, equal in form and of the usual size, with complete orifices; distinct above, the two inside margins keeping separate to the very point of attachment, the point of the sterile anther lying between them; but below, they adhere about one-third their length. Lower sepal entire. June.

CANDIDUM, *Muhl.* *White-flowered Cypripedium.*

Damp borders of streams and swamps.

Near Cooperstown, Otsego county, *Horace Lathrop.* The specimen in the possession of Dr. LATHROP, gathered a few years ago, certainly has the form of this species; and he affirms that when growing, the flower was pure white.

And that its range commences in this part of the State, is not improbable. It ought to be looked for through the northern valley of the Susquehanna, and on the high marshes of its headwaters in south Herkimer county. The tamarack swamps south of Jordanville are almost identical in character with its habitat in the western part of the State, and contain many plants its companions there, including *Parnassia caroliniana* and *Valeriana sylvatica.*

On the open marsh of the Bergen swamp, Genesee county, but more abundant along the edges of low woods bordering; where it was first found by *C. M. Booth* and *G. T. Fish.* Rare. May.

SPECTABILE, *Swartz.* *Showy Cypripedium.*

Cold swamps. Summit lake in the cedar woods at its head, Otsego county. Abundant in the marshes of Mud lake, Jordanville, Hidden lake, the State marsh, and cedar swamps on the flats of the Mohawk below Utica, south Herkimer county. Trenton falls, on the springy bank opposite the High falls; and in swamps on the road to Utica. Between Oriskany and Rome. Swamp on Paris hill.

In the last locality, and at Mud lake, the flowers are pure white frequently. Infrequent. July.

ACAULE, *Aiton.* *Stemless Cypripedium.*

Sandy woods and swamps. Throughout Schenectady, Montgomery and Otsego counties. Tamarack marshes between Page's corners and Jordanville: Frankfort hill, south Herkimer county. Paris hill swamp. Common on the plains of Rome and Oneida lake. Above the cliffs along Fish creek. Sandy woods in South-Trenton, and in the groves of Trenton falls. Abundant in the northern part of the county, Lewis county, and the north woods. Frequent.

Flowers white, near Cooperstown, Otsego county, *Mrs. J. Shaw.* Rare. June.

ARIETINUM, *R. Br.* — *Ram's-head Cypripedium.*

Cold swamps, in moss and deep black soil. Summit lake, Otsego county, in the half-open sphagnum bog-land adjoining, within clumps of low tamaracks and arbor vitæ, or in their shade. In similar stations at Mud lake; but most abundant on the tamarack marshes near Jordanville, on the road to Richfield springs, Herkimer county. Usually growing singly or two or three together, but often in clusters of ten to twenty stems. Stems compressed, enclosed by three sheaths at base, clothed with minute down, knotted at the bases of leaves, twisted so that the leaves appear on all sides and not in opposite ranks as in other species. Leaves three to six, ciliate, smooth above and silvery-cellular beneath. Flower-bract large, ovate, leaf-like.

This species, which has proved to be so rare and transitory, in these stations appears both plenty and permanent. This is the more remarkable, because occurring so far south; the plant being a northern one, and this habitat one of its limits southward.

Formerly, it has been found along the Rolle-boom near the Platte-kill, Schenectady county, by *Pearson;* and near Oneida lake, by *Gray;* but the plants have disappeared, or the stations are lost. Rare. May.

## AMARYLLIDACEÆ. — *Amaryllids.*

HYPOXYS, *L.* — *Star-grass.*

ERECTA, *L.* — *Upright Hypoxys.*

Borders of woods, damp grass lands. Frequent. May – July.

## IRIDACEÆ. — *Irids.*

IRIS, *L.*

VERSICOLOR, *L.* — *Color-varying Iris.*

Bogs and wet meadows. Common. May, June.

VIRGINICA, *L.* — *Virginian Iris.*

Borders of marshes. Troy, *Beck in herb.* Rare. June.

SISYRINCHIUM, *L.* — *Blue-eyed Grass.*

BERMUDIANA, *L.*, var. ANCEPS, *Gray.* — *Sword-spathed Sisyrinchium.*

Waysides, pastures, meadows. Common. May – July.

## DIOSCOREACEÆ. — *Yam-roots.*

DIOSCOREA, *Plumier.* — *Wild Yam-root.*

VILLOSA, *L.* — *Downy Dioscorea.*

Wet woods and thickets. Low sandy woods near Owasco lake, Cayuga county, *I. H. Hall.* Rare. July.

## SMILACEÆ. — *Smilaces.*

SMILAX, *Tournefort.* — *Greenbriers.*

ROTUNDIFOLIA, *L.* — *Round-leaved Smilax.*

Woods, thickets, near water. Schenectady county, *E. W. Paige.* Oneida county, *Knieskern.* Penn-Yan, *Sartwell.* Rochester, *C. Dewey.* Uncommon. June.

HISPIDA, *Muhlenberg.* — *Prickly Smilax.*

Low woods, shady swamps. Oriskany valley; wet woods between Clinton and Manchester; southeast of Clark's mills. In all damp thickets, and swamps on the flats of the Mohawk. Gorham, Seneca county, *Sartwell.* Frequent. June.

HERBACEA, *L.* — *Herbaceous Smilax.*

Shaded banks of streams. Uncommon. June.

TRILLIUM, *L.* — *Trillia.*

SESSILE, *L.* — *Sessile-flowered Trillium.*

Rich woodlands. Near Irondequoit bay, Monroe county, *L. Holzer.* Rare. May.

CERNUUM, *L.* — *Nodding Trillium.*

Shady banks. Schenectady county, *Pearson: Paige.* Otsego county, *H. Lathrop.* Scarce. May.

ERECTUM, *L.* — *Purple, Erect Trillium.*

Ravines and moist banks. Common.

var. ALBUM, *Pursh.* — *White Trillium.*

Valley of the Mohawk throughout: Frankfort: Utica. Valley of the Saquoit: New-Hartford. Valley of the Oriskany: Clinton: Lairdsville. Abundant.

var. FLAVUM, *Eaton.* — *Yellow Trillium.*

Southern part of Lewis county, *J. G. Crocker.* Occasionally, with the normal form, in the vicinity of Utica. Banks of the Mohawk at Rome, *Vasey.* Hamilton, Madison county, and Norwich, Chenango county, *J. S. Douglass, Torrey Fl. N.Y.* Scarce. May.

GRANDIFLORUM, *Salisbury.* — *Great-flowered Trillium.*

Woods, cedar swamps, banks of streams. Abundant throughout the Mohawk valley. Frequent in the Sauquoit and Oriskany vallies. May.

ERYTHROCARPUM, *Michaux.* — *Red-fruited Trillium.*

Evergreen woods, open banks. Schenectady county, *Pearson.* Otsego county, *Miss S. Cooper.* Trenton falls. Banks of the Deerfield creek. Brows of the Starch-factory ravine. Frankfort hill. Paris hill. Sides of Oriskany creek, Pleasant valley. Common throughout the sandy woods of Rome. Valley of the Unadilla, *Gray.* Abundant. May.

MEDEOLA, *Gronovius.* — *Cucumber-root.*

VIRGINICA, *L.* — *Virginian Medeola.*

Moist woods. Common. June.

## LILIACEÆ. — *Lilies.*

ASPARAGUS, *L.*

*OFFICINALE*, L. — *Officinal Asparagus.*

Pastures, ravines. Escapes frequently. June.

POLYGONATUM, *Tournefort.* — *Solomon's-seals. Polygonata.*

BIFLORUM, *Elliott.* — *Twin-flowered Polygonatum.*

Ravine-sides, moist woods. Abundant. May.

GIGANTEUM, *Dietrich.* — *Giant Polygonatum.*

Banks of the Mohawk river, where it is common; but out of the valley it is rare. Along Wood creek sparingly. June, July.

SMILACINA, *Desfontaines.* — *Smilacinas.*

RACEMOSA, *Desf.* — *Racemed Smilacina.*

Woods, thickets, hillsides. Common. May, June.

STELLATA, *Desf.* — *Starry Smilacina.*

Abundant on the banks of the Mohawk. Wood creek. Fish creek, *Knieskern.* In all arbor-vitæ swamps on the hills, from Summit lake westward to Hidden lake. Frequent. June.

TRIFOLIA, *Desf.* *Three-leaved Smilacina.*

Swamps. Summit lake. Mud lake. Jordanville marshes. Frankfort hill, round Wetmore's pond. Paris hill. Southeast of Oriskany. South Trenton. Abundant in the swamps of Rome. Borders of Point of Rock lake. Common in the cold marshes of the north woods. Abundant. May.

BIFOLIA, *Ker.* *Two-leaved Smilacina.*

Woods. Common. May.

CLINTONIA, *Rafinesque.* *Wild Lily of the Valley. Clintonia*

BOREALIS, *Raf.* *Northern Clintonia.*

Damp woods, and in all arbor-vitæ swamps. Cold marshes and borders of ponds on the hills, from Otsego county, through the high swamps of Warren and Litchfield to Cedar lake, south Herkimer county. Paris hill, and over the uplands of the southern part of the county. Cedar swamps on the flats of the Mohawk; between East-Canada creek and Littlefalls; below and above Frankfort; ravines near Utica; south of Whitesboro; west of Oriskany; north of Rome. Swamps west of Rome and around Oneida lake. About Point of Rock lake. Evergreen woods of South-Trenton. Sides of North pond. Common in the north woods. Abundant. May, June.

HEMEROCALLIS, *L.* *Day-lily.*

*FULVA*, L. *Fulvous Hemerocallis.*

Roadsides; garden fences. Occasional. July.

ALLIUM, *L.* *Leeks.*

TRICOCCUM, *Aiton.* *Three-seeded Allium.*

Moist woods. Common. June.

CERNUUM, *Roth.* *Drooping-flowered Allium.*

Damp banks. Seneca county, shores of the lake, *Gray*. Chemung valley, *Knieskern, Torrey Fl. N.Y.* Chemung county, *Sartwell in herb. Ham. Coll.* Rare. July, August.

*VINEALE*, L. *Vineyard Allium.*

Low meadows. Troy, *Aiken in herb. Sartwell Ham. Coll.* Schenectady county, *Pearson: Paige*. Near Utica, *Knieskern in cat.* Rare. June.

CANADENSE, *Kalm.* *Canadian Allium.*

Water-sides. Sander's lake near Schenectady. *Pearson*. Shady woods, Oneida county, *Knieskern*. Meadows on the flats of the Mohawk opposite Whitesboro. Uncommon. May, June.

LILIUM, *L.* *Lilies.*

PHILADELPHICUM, *L.* *Red Lily.*

Plains, banks, bushes. Schenectady. Littlefalls. Rome. Abundant. June.

CANADENSE, *L.* *Yellow Lily.*

Wet meadows, borders of swamps. Pine plains of Schenectady. Otsego county, *Miss S. Cooper*. Trenton falls, on the west bank opposite the High falls. Oneida county, *Knieskern*. Meadows of the Mohawk. Sandy woods of Rome. Yates county, *Sartwell in herb. Ham. Coll.* Frequent. June, July.

SUPERBUM, *L.* *Turk's-cap. Superb Lily.*

Low meadows and swamps. Common. July, August.

ERYTHRONIUM, *L.* *Adder's-tongues.*

AMERICANUM, *Smith.* *Yellow Erythronium.*

Damp woods and meadows. Common. April, May.

ALBIDUM, *Nuttall.* — *White Erythronium.*

Wet meadows. Near Albany, *Eaton bot.* Albany, *Torrey Fl. N.Y.: in herb. Sartwell Ham. Coll.* Delaware county, common, *B. D. Gilbert.* Rare. April, May.

## MELANTHACEÆ. — *Melanthia.*

UVULARIA, *L.* — *Bellworts.*

GRANDIFLORA, *Smith.* — *Large-flowered Uvularia.*

Flats of streams, damp woods. Common. May.

PERFOLIATA, *L.* — *Small-flowered Uvularia.*

Gulf-sides, borders of thickets. Ravines on the Deerfield hills. Frankfort hill. Headwaters of the Sauquoit creek; of the Unadilla river; and southward. Infrequent. May.

SESSILIFOLIA, *L.* — *Sessile-leaved Uvularia.*

Woods. Everywhere common. May.

PROSARTES, *Don.* — *Prosartes.*

LANUGINOSA, *Don.* — *Downy Prosartes.*

Rich open woods about Oriskany, *Knieskern.* Auburn, Cayuga county, *J. Carey in herb. Sartwell Ham. Coll.* Penn-Yan, Yates county, *Sartwell.* Near Rochester, *Eaton bot.: Z. H. Harris. Torrey Fl. N. Y.: C. M. Booth.* Greece, Monroe county, *Bradley.* Rare. May.

STREPTOPUS, *Michaux.*

AMPLEXIFOLIUS, *DC.* — *Stem-clasping Streptopus.*

Cedar swamps. Fairfield, *Hadley, Torrey Fl. N.Y.* In most of the swamps on the heights of Frankfort, near the Graefenberg Watercure; and Litchfield, *Gray.* Paris hill. Rare. June.

ROSEUS, *Michx.* — *Rosy-flowered Streptopus.*

Ravines and woods. Common. May.

ZYGADENUS, *Michaux.*

GLAUCUS, *Nuttall.* — *Glaucous Zygadenus.*

On the gravelly banks of the St. Lawrence, in calcareous soil, *Nuttall.* Abundant in the marly portions of the West-Bergen swamp, northeastern Genesee county, chiefly in the shade of evergreens and throughout the arbor vitæ bordering the marsh: discovered by G. T. FISH. Rare. July.

VERATRUM, *Tournefort.* — *American Hellebore.*

VIRIDE, *Aiton.* — *Green-flowered Veratrum.*

Wet meadows and swamps. Common. June.

CHAMÆLIRIUM, *Willdenow.* — *Blazing-star.*

LUTEUM, *Gray.* — *Light-yellow-flowered Chamælirium.*

Meadows and low woodlands. Wet places in sandy woods near Owasco lake, Cayuga county, *I. H. Hall.* Yates county, *Sartwell in herb. Ham. Coll.* Rochester, *Z. H. Harris in herb. Bradley.* Rare. May, June.

TOFIELDIA, *Hudson.* — *False Asphodel.*

GLUTINOSA, *Willd.* — *Glutinous-stemmed Tofieldia.*

Wet moss and shallow bogs on the swamp of West-Bergen, Genesee county. In these moist stations, the plants are large and abundant; but sometimes they are found in nearly dry marly mud, in company with *Scleria verticillata* and *Carex crawei*, when they are dwarfed in size, flowering at the height of three to six inches. Rare. June, July.

## JUNCACEÆ. *Rushes.*

### LUZULA, *DC.* *Wood-rushes.*

PILOSA, *Willd.* *Hairy Luzula.*

Damp shady banks of streams. Along Wood creek and near Oneida lake, *Knieskern.* Abundant on the wooded flats and rocky sides of Fish creek. Yates county, *Sartwell in herb. Ham. Coll.* Abundant. May.

CAMPESTRIS, *DC.* *Field Luzula.*

Dry woodlands. Common. May.

### JUNCUS, *L.* *Rushes. Junci.*

EFFUSUS, *L.* *Effuse Juncus.*

Ditches, low meadows. Common. June.

FILIFORMIS, *L.* *Filiform Juncus.*

Sandy shores of lakes in the north woods. Head of Oneida lake, *Gray.* Lake Ontario near Sackett's-harbor, *Gray in Rare plants of Northern N.Y.* Rare. July.

BALTICUS, *Willd.* *Baltic Sea Juncus.*

Gravelly shores of the St.Lawrence and of Lake Ontario, *Torrey Fl. N.Y.* Lake shore, Sackett's-harbor, *Knieskern.*

Common in the muddy portions of the swamp in West-Bergen, north-eastern Genesee county.

This plant appears out of place here. Its usual habitat is the border of the Lake; while this station is three hundred feet or more above the level of the Lake, and nearly twenty miles south of the shore and has been found still farther inland. Other shore plants accompany it; *Scirpus torreyi*, *Zygadenus glaucus*, *Solidago houghtonii* of which only one other station is known, on the northern shore of Lake Michigan: all depend on the water of the Lake for their establishment. Their presence at this place, therefore, indicates that the surface of the water has been so much higher, or the land so much lower, at some time past.

Furthermore, this is a seaside plant, native in the north of Europe and on our northern coasts. For its introduction to the Great Lakes, it is just as dependent on the ocean as are *Ranunculus cymbalaria*, *Atriplex hastata*, *Saliconia herbacea*, *Najas major*, *Ruppia maritima*, *Triglochin maritimum*, *J. bulbosus*, *Scirpus maritimus* and *Spartina stricta* for their existence at Onondaga lake, and *Lathyrus maritimus* on the beaches of Oneida lake. These localities are all nearly on the same level, which must have been the shore of a maritime bay, during some ancient period. This period cannot have been less remote than the Post-tertiary, and may have been among the epochs of the Tertiary itself.

So these stations prove these very species of plants to be very old; and because still identical in character, both inland and on the coast, that they have not varied in the least during so many ages and so great changes.

Rare. July.

SCIRPOIDES, *Lamarck.* *Scirpus-like Juncus.*

Borders of ponds and streams. Low sandy points of lakes in the north woods. Shores of North pond near Alder creek. Shores of Lake Ontario, near Sackett's-harbor, *Gray in Rare plants of Northern N.Y.* Reoccurring on the hills south of the Mohawk valley. Along Canaderaga lake outlet, Otsego county. Southern Oneida and Madison counties, *Gray.* Yates county, *Sartwell in herb. Ham. Coll.* Frequent. July.

PARADOXUS, *Meyer.* *Remarkable-fruited Juncus.*

Wet banks of rivulets, grassy marshes, around swamps, lakes, and all water-courses. Common. July, August.

DEBILIS, *Gray.* *Weak-stemmed Juncus.*

Muddy bottoms of shady swamps.

Its habit clearly distinguishes this species; the stems lying flat on the ground, radiating in all directions from the root, nearly two feet in length. Infrequent. August, September.

ACUMINATUS, *Michx.* *Sharp-fruited Juncus.*

Marshes. Common along low shores in the north woods. In the swamps of Warren, south Herkimer county, between Jordanville and Richfield springs. Oneida county, *Knieskern.* Jefferson county, *Vasey.* Head of Seneca lake, *Gray.* Crooked lake, *Sartwell in herb. Ham. Coll.* Frequent on the southern borders of Bergen swamp, Genesee county. Abundant. July – September.

ARTICULATUS, *L.* *Articulate Juncus.*

Water-sides. Dexter, Jefferson county, *Vasey.* Penn-Yan, *Sartwell in herb. Ham. Coll.*

var. PELOCARPUS, *Gray.* *Brown-fruited Juncus.*

Shores. Onondaga lake, on all sides, in shallow water. Banks of Genesee river near Avon; mouth of the Genesee, *Sartwell in herb. Ham. Coll.* Rare. August.

NODOSUS, *L.* *Knotted-leaved Juncus.*

Water-borders, muddy banks. North woods. Alder creek. Cedar lake, south Herkimer county. Onondaga lake. Abundant. July.

var. MEGACEPHALUS, *Torrey.* *Great-headed Juncus.*

Sandy shores of Lake Ontario, *Gray, Torrey Fl. N.Y.: bot.* Wet soil near the Lake shore, Monroe county, *L. Holzer.* Rare. July.

CONRADI, *Tuckerman.* *Determined by* CONRAD.

Sandy shores. Albany, *Beck in herb.* Plentiful on the banks of Third and Fourth lakes, north Herkimer county; frequently viviparous. Rare. July.

STYGIUS, *L.* *Stygian Juncus.*

In an extensive sphagnous swamp bordering Perch lake, Jefferson county; not previously known as a native of North America, *Gray in Rare plants of Northern N.Y.* Thirty years ago or so, it was found near the head of the lake, on a wet quaking bog which extended to the water. But the lake has been raised at its outlet, or lowered; either of which would destroy the locality. Others have tried for years, but have not rediscovered the plant, *Gray.*

Specimens were taken from this station also by *Crawe: Wood: Vasey.*

The heads are not always single and terminal: many specimens have two, one to three inches apart. Local. July, August.

TENUIS, *Willd.* *Slender Juncus.*

Roadsides, damp grounds. Common. June.

BULBOSUS, *L.*, var. GERARDI, *Gray.* *Black-grass.*

Rivulet-sides and wet banks, east of Salina and west of Onondaga lake, in thick patches. Common there. Local inland. August.

BUFONIUS, *L.* *Toad Juncus.*

Ditches, shores. Common. August.

## PONTEDERIACEÆ. *Pickerel-weeds.*

PONTEDERIA, *L.* *Common Pickerel-weed.*

CORDATA, *L.* *Cordate-base-leaved Pontederia.*

Shallow waters of lakes, ponds, rivers. Otsego lake. *Miss S. Cooper.* Lakes of the north woods. Oneida lake, *Knieskern.* Bays and inlets on Lake Ontario. Frequent.

var. ANGUSTIFOLIA, *Gray.* *Narrow-leaved Pontederia.*

Borders of Canaderaga lake, Otsego county, *Gray.* July – September.

SCHOLLERA, *Schreber.* *Water Star-grass.*

GRAMINEA, *Willd.* *Grass-leaved Schollera.*

Flowing water. Chenango canal, two miles southwest of Utica. Occasional in the Mohawk river throughout. Unadilla river common, *Gray.* Eaton Madison county, *Bradley.* Junius, Seneca county, *Sartwell in herb. Ham. Coll.* Genesee river and Irondequoit bay, *C. M. Booth.* Infrequent. August.

## XYRIDACEÆ. *Xyrids.*

XYRIS, *L.* *Yellow-eyed Grass.*

BULBOSA, *Kunth.* *Bulbous Xyris.*

Muddy edges of an elevated pond at the east end of Bald rock, north Herkimer county. Growing in clusters of many plants connected at the roots: very small in size, scapes two to six inches high, leaves one-half to two inches long. Rare. July, August.

## ERIOCAULONACEÆ. *Pipeworts.*

ERIOCAULON, *L.*

SEPTANGULARE, *Withering.* *Seven-angled Eriocaulon.*

Lakes and ponds of the north woods, throughout and common. August.

## CYPERACEÆ. *Sedges.*

CYPERUS, *L.* *Cyperi.*

DIANDRUS, *Torrey.* *Two-stamened Cyperus.*

var. CASTANEUS, *Torr.* *Chestnut-colored Cyperus.*

Wet pastures, Oneida county, *Knieskern.* Common in southern Oneida and Madison counties, *Gray.* Marshy banks at Salina, and sandy shores beyond Liverpool, Onondaga lake. Yates county, *Sartwell.* Monroe county, *L. Holzer.* Abundant. August, September.

MICHAUXIANUS, *Schultes.* *Discovered by* MICHAUX.

Waterside marshes. Borders of Oneida lake, *Knieskern.* Salina, New-York, *J. Carey, Torrey Cyp.* Wet banks at the head and east side of Onondaga lake, but scarce. Shores of Lake Ontario: Oswego. Crooked lake, *Sartwell.* Rare. August.

STRIGOSUS, *L.* *Strigose-spiked Cyperus.*

Stream-sides, low sandy grounds. Valley of the Mohawk throughout, on springy hillsides and gravelly banks. Whitesboro, on the barren sand from the break of the Erie canal. Borders of swamps on the plains of Rome. Around Onondaga lake. Frequent. August.

INFLEXUS, *Muhl.* *Recurved-scaled Cyperus.*

Sandy shores of rivers and lakes. Near Albany, *Tracy* and *Eaton, Torrey Cyp.* Near Oneida lake, *Gray Gram. & Cyp.* Shore of Oneida lake at the water's edge, a half mile north of Fish creek, plenty, *Knieskern.* Infrequent. August.

DENTATUS, *Torr.* *Dentate-spiked Cyperus.*

Shores of Fourth lake in the chain of Eight, north Herkimer and Hamilton counties, on a sandy point of the north side, and at the head near the inlet from the upper lake: where it occurs in its abnormal state, with scales and spikes foliaceous. Rare. August, September.

PHYMATODES, *Muhl.* *Many-tubered Cyperus.*

Damp banks. Low alluvial bottoms in the bed of the Mohawk river throughout its length, but chiefly from Schenectady to Littlefalls; also in ditches and bogs over the flats. Shores of Oneida lake, *Torr. Cyp.* Avon springs, Livingston county, *Sartwell in herb. Ham. Coll.* Common. August.

SCHWEINITZII, *Torrey.* *Discovered by* SCHWEINITZ.

Dry sandy banks along the shore of Lake Ontario. Sodus bay, *Sartwell in herb. Ham. Coll.* Near Greece, Monroe county, *Bradley, Torrey Cyp.* Beach of Lake Ontario near Braddock's bay, *Bradley.* Rare. August.

FILICULMIS, *Vahl.* *Filiform Cyperus.*

Barren fields and banks. Abundant in the sandy wastes at the head of Oneida lake. South shore of Oneida lake, *Knieskern.* Around Onondaga lake. Frequent. July, August.

## DULICHIUM, *Richard.*

SPATHACEUM, *Persoon.* *Sheathed Dulichium.*

Marshes, borders of lakes, frequent. In the north woods, common. August.

## HEMICARPHA, *Nees von Esenbeck.*

SUBSQUARROSA, *Nees.* *Spreading-scaled Hemicarpha.*

Sandy shores. Northern parts of the State of New-York, *Stevenson;* western parts of the same State, *Gray; Torrey Cyp.* Near Oneida lake, New-York, *Gray Gram. & Cyp.* Shore of Oneida lake above the mouth of Fish creek, with *Cyperus inflexus, Knieskern.* Rare. July.

## ELEOCHARIS, *R. Brown.*

OBTUSA, *Schultes.* *Obtuse-scaled Eleocharis.*

Marshes, low grounds. Common. July.

PALUSTRIS, *R. Br.* *Marsh Eleocharis.*

Bogs, swamps, borders of ponds, lakes at the water's edge. Often very high when growing in shallow water. Common. July.

var. CALVA, *Gray.* *Skull-spiked Eleocharis.*

Western part of the State, *Torrey Fl. N.Y.* Watertown, *Crawe, Gray bot.* August.

COMPRESSA, *Sullivant.* *Compressed-culmed Eleocharis.*

Shallow borders of lakes, or at the water's edge, in the north woods. Wet mud-banks of a millpond at Cedarville, south Herkimer county. Brownville, Jefferson county, *W. A. Wood in herb. Sartwell Ham. Coll.* Scarce. August.

ROSTELLATA, *Torrey.* *Rostrate-fruited Eleocharis.*

Swamps. Junius, Seneca county, *Sartwell, Torrey Cyp.* and *Fl. N.Y.: Gray bot.: in herb. Sartwell Ham. Coll.* Common on the swamp of West-Bergen, Genesee county; in wet moss and water-covered marl.

This plant commonly bears fruitless culms two to four feet in length, which, bending over, root at the end. August, September.

INTERMEDIA, *Schultes.* *Intermediate Eleocharis.*

Damp banks and shores. Jefferson county, *Crawe,* and Oneida county, *Gray, Torrey Cyp.* Shores of North pond, southwest of Boonville. Near Oriskany, *Knieskern.* Cedarville, covering the muddy banks of a millpond, and along the creek towards Ilion; marly shores of Cedar lake, with *Scirpus pauciflorus;* south Herkimer county. Southern Oneida and Madison counties, *Gray.* Benton, Yates county, *Sartwell in herb. Ham. Coll.* Infrequent. August.

TENUIS, *Schultes.* *Slender Eleocharis.*

Marshes. Mud lake, Jordanville, Cedar lake, Hidden lake, and Cedarville, south Herkimer county. Frequent. August.

ACICULARIS, *R. Br.* *Needle Eleocharis.*

Rivulet-sides, wet banks and bottoms of mud. Common. June – August.

SCIRPUS, *L.* *Scirpi.*

CÆSPITOSUS, *L.* *Tufted Scirpus.*

Sphagnous bogs on mountain tops, and cold swamps. Mount Marcy, *Knieskern in herb. Sartwell Ham. Coll.* Common on the West-Bergen marsh, northeastern Genesee county; where it grows very high, fifteen to twenty inches. Rare. June, July.

PAUCIFLORUS, *Lightfoot.* *Few-flowered Scirpus.*

Marshes. Watertown near Lake Ontario, *Crawe. Gray addend. bot.* Hidden lake, Litchfield; where it abounds in the peculiar covering composed of *Hypnum scorpioides*, with *Carices chordorhiza, filiformis* and *limosa* chiefly: marly bogs around Cedar lake, most abundant on an old outlet of the pond, covering its surface: south Herkimer county. It also occurs very sparingly on the southern border of the swamp in Bergen, northeastern Genesee county, in marl mud. Rare. July.

PLANIFOLIUS, *Muhl.* *Flat-leaved Scirpus.*

Rocky woods and bogs. Ogdensburgh, St.Lawrence county, *Crawe, Torrey Cyp.* Rare. June.

CLINTONII, *Gray.* *Dedicated to* G. W. CLINTON.

Dry banks.

SCIRPUS PLANIFOLIUS, var. *brevifolius.* Leaves much shorter than the culm, very narrow, canaliculate, triquetrous towards the summit; scales shorter and scarcely acuminate. Culm a foot long, very slender. Leaves scarcely half a line wide, 1 – 3 inches long, almost subulate. Spike broadly ovate. Ogdensburgh, N.York, *Crawe:* TORREY *Cyp.*

Folio e vagina suprema involuto-filiformi culmo multum breviori, cæteris brevissimis vel subnullis; squamis capituli (præter infimam) carina vix prominula haud percurrente muticis; setis perigynii achenium superantibus: rel. ut in *S. planifolio:* GRAY *in Sill. Jour.* Rare. June.

SUBTERMINALIS, *Torrey.* *Subterminal-fruited Scirpus.*

Deep still water. Inlet of a stream on the west side of First lake, north Herkimer county. Sphagnum pond adjoining North pond, north Oneida co. Rare. August.

var. TERRESTRIS. *Emersed Subterminal-fruited Scirpus.*

Wet moss on Hidden lake, south Herkimer county. Standing ten to twenty inches high, with one to three or four erect strong leaves and open round heads of fruit. Local. August.

PUNGENS, *Vahl.* *Pointed Scirpus.*

Lake borders, swamps. Shallow water of ponds in the north woods. Oneida lake, *Knieskern.* Western part of the State of New-York, *Gray Gram. & Cyp.* Water-sides near Onondaga lake.

At Salina a small form occurs, short, slender, and few-flowered. Abundant. August.

TORREYI, *Olney.* *Determined by* TORREY.

Margins of rivers, ponds. Abundant near the head of Fourth lake, Hamilton county, along the south shore, in shallow water on sandy bottoms. Also in quantity over the southern portion of the swamp of West-Bergen, Genesee county; in company with *Juncus balticus* and other Lake shore plants. Rare. August.

LACUSTRIS, *L.* *Lake Scirpus.*

Bogs, rivers, lakes. Common. July.

DEBILIS, *Pursh.* *Weak Scirpus.*

Sandy borders of lakes. Wet shores of Oneida lake, *Knieskern.* Shore of Lake Ontario near Sackett's-harbor, New-York, *Gray Gram. & Cyp.: Torr. Cyp.: in herb. Sartwell Ham. Coll.* Rare. August.

MARITIMUS, *L.* *Seaside Scirpus.*

Beaches, shore-marshes. Sandy banks at Salina and of Onondaga lake: where all manner of forms abound, from a depauperate one and the smallest size, up to the ordinary and highest states. Local inland.

var. MACROSTACHYOS, *Michaux.* *Large-headed Scirpus.*

Marshes of Salina at the head of the lake. Abundant here, but local. August – October.

FLUVIATILIS, *Gray.* *River Scirpus.*

Lake and river-marshes. Gravelly shores of Canaderaga lake, Otsego county; where it was discovered by Dr. GRAY in the year 1832. Borders of Oneida lake, *Knieskern.* Common in the western parts of the State of New-York, *Gray, Torrey Cyp.* Yates county, *Sartwell in herb. Ham. Coll.* Irondequoit bay of Lake Ontario, *L. Holzer.* Rare. August.

SYLVATICUS, *L.* *Woodland Scirpus.*

var. ATROVIRENS, *Gray.* *Dark-green Scirpus.*

Low meadows, swamps. Common. July.

POLYPHYLLUS, *Vahl.* *Many-leaved Scirpus.*

Borders of wet woods and thicket-swamps. Near Penn-Yan, Yates county: Lockport, Niagara county: *Sartwell.* Rare. July.

LINEATUS, *Michx.* *Line-scaled Scirpus.*

Swamps. Ontario county, *Sartwell in herb. Ham. Coll.* Rare. July.

ERIOPHORUM, *Michx.* *Wool-bearing Scirpus.*

Low grounds. Common.

var. CYPERINUS, *Gray.* *Cyperus-like Scirpus.*

Wet places on Bald rock, north Herkimer county.

var. LAXUS, *Gray.* *Loose-fruiting Scirpus.*

Marshes of the north woods. Borders of Oswego river. August.

ERIOPHORUM, *L.* *Cotton-grasses. Eriophora.*

ALPINUM, *L.* *Alpine Eriophorum.*

Cold moss marshes. Oriskany swamp, *Knieskern: Gray: Vasey.* Abundant on the extensive sphagnum swales beyond Rome, both sides of the Oswego county road. Tufts on the surface of Hidden lake, Litchfield; and on the borders of Mud lake; south Herkimer county. Rare. June.

VAGINATUM, *L.* *Sheathed-culmed Eriophorum.*

Elevated swamps. Shaky sphagnum flats surrounding Wetmore's pond on Frankfort hill. Watertown and Utica, *Gray, Torrey Cyp.* Abundant in deep sphagnous swamps on the pine plains six miles west of Rome. Rare. June.

VIRGINICUM, *L.* *Virginian Eriophorum.*

Sphagnum bogs. Frankfort hill. Paris hill. Oriskany. Rome. South Trenton. Near North pond. Common in the north woods. August.

POLYSTACHYON, *L.* *Many-spiked Eriophorum.*

Wet meadows, grassy bogs. Common.

var. ANGUSTIFOLIUM, *Gray.* *Narrow-leaved Eriophorum.*

Cedar and moss-swamps. Western part of the State; Oriskany swamp; Brookfield, Madison county; *Gray.* Sphagnum bog southeast of Oriskany, on the hill. North Herkimer county marshes, at the edges of woods. Rare. July.

GRACILE, *Koch.* *Slender Eriophorum.*

Mossy marshes. Open grassy bog, north of Summit lake, Otsego county. Cedar swamp bordering Mud lake : abundant on Hidden lake; south Herkimer county. Common on cold bogs west of Fort Bull, Rome, near the Erie canal. Pools in the sphagnous marsh adjoining North pond. Wet banks and along brooks in the north woods. Infrequent. June.

## FIMBRISTYLIS, *Vahl.*

AUTUMNALIS, *Rœm. & Schultes.* *Autumnal Fimbristylis.*

River-sides. Troy and Schenectady, *Pearson.* Infrequent. August, Sept.

CAPILLARIS, *Gray.* *Capillary Fimbristylis.*

Dry sand. Pine plains of Schenectady, *E. W. Paige.* Sandy plains of Oneida lake, *Gray.* Uncommon. August, September.

## RHYNCHOSPORA, *Vahl.* *Beaked Rushes.*

FUSCA, *Rœm. & Schultes.* *Brown Rhynchospora.*

Lake-shores and boggy margins of ponds in the north woods, Herkimer and Hamilton counties : abundant there. August.

ALBA, *Vahl.* *White Rhynchospora.*

Marshes. Summit lake. Mud lake. Frankfort hill. State marsh. Hidden lake. Oriskany swamp, *Knieskern.* North pond, off Alder creek; and in all the bogs of the north woods. Common. August.

CAPILLACEA, *Torrey.* *Capillary Rhynchospora.*

Bogs and wet rocks. Cranberry marsh at the head of Oneida lake, *Knieskern.* On limestone rocks, Watertown, New-York, *Gray Rhyn.* Junius, Seneca county, *Sartwell.* Crevices and seats of the wet cliffs below the falls of Genesee river, Rochester. West-Bergen swamp, Genesee county.

A variety with twelve bristles is abundant on Hidden lake and the State marsh, Litchfield, south Herkimer county. Rare. July, August.

GLOMERATA, *Vahl.* *Clustered Rhynchospora.*

Mossy level adjoining an elevated pond at the east end of Bald rock, north of Third lake, north Herkimer county. Rare. August.

## CLADIUM, *Browne.*

MARISCOIDES, *Torrey.* *Mariscus-like Cladium.*

Marshes and lake-shores. Abundant on Hidden lake, Litchfield. Oriskany swamp, *Gray : Knieskern.* Common on borders of lakes and ponds in the north woods. Infrequent. August.

## SCLERIA, *L.* *Nut-rushes.*

TRIGLOMERATA, *Michaux.* *Three-clustered Scleria.*

Swamps, low copses. Plains of Rome, *Knieskern.* Yates county, *Sartwell.* Infrequent. July.

PAUCIFLORA, *Muhlenberg.* *Few-flowered Scleria.*

Wet meadows, hillsides. Greece, Monroe county, *Bradley.* Rare. July.

VERTICILLATA, *Muhl.* *Whorled-fruited Scleria.*

Marshes. Junius, Seneca county, *Sartwell, Torrey Cyp. : Gray Gram. & Cyp.: in herb. Sartwell Ham. Coll.* Abounding in the damp marl of the West-Bergen swamp. Genesee county.

The fresh plant has a peculiar and agreeable fragrance. Rare. August.

CAREX, *L.* *Carices.*

GYNOCRATES, *Wormskjold.* *Strong-pistilled Carex.*

Swamps. Savannah, Wayne county, *Sartwell in herb. Ham. Coll.* Springy banks a few miles south of Rochester, west of the Genesee river, *Dewey.* Abundant in the swamp of West-Bergen, Genesee county, in moisture and shade, covering low mounds and decaying logs. Rare. June.

EXILIS, *Dewey.* *Meagre-fruited Carex.*

Elevated bogs. Marshy borders of a pond off the east end of Bald rock, north of Third lake, north Herkimer county. Rare. June, July.

STERILIS, *Willdenow.* *Barren-spiked Carex*

Cold bogs on the hills. Frankfort hill. Paris hill. Summit lake. Hidden lake. Sphagnous swamps between Rome and Oneida lake. West-Bergen, Genesee county Infrequent. June.

BROMOIDES, *Schkuhr.* *Bromus-like Carex.*

Marshes, water-sides. Common. May.

DISTICHA, *Hudson.* *Two-ranked-fruited Carex.*

var. SARTWELLII, *Dewey.* *Discovered by* SARTWELL.

Swamps. Junius, Seneca county, *Sartwell.*
Fruit not two-rowed. Rare. July.

DECOMPOSITA, *Muhlenberg.* *Decompound-spiked Carex.*

Swamps. Junius, Seneca county, and Penn-Yan, Yates county, *Sartwell.* Rare. July.

PRAIREA, *Dewey.* *Prairie Carex.*

Marshes on the hills south of the Mohawk valley. In the open mossy bog-land north of Summit lake, Otsego county. Edges of Mud lake; common on the tamarack swamps between Jordanville and Page's corners; abundant over the surface of Hidden lake; sparingly in the State swamp of Jerusalem hill, Litchfield; south Herkimer county. Yates county, *Sartwell.* West Bergen, Genesee county. Rare. July.

CEPHALOPHORA, *Willd.* *Head-bearing Carex.*

Copses, sandy fields. Borders of thickets, north side of the river opposite Whitesboro. Mohawk valley, *Knieskern.* Greece, Monroe county, *Bradley.* Frequent. May, June.

MUHLENBERGII, *Schkuhr.* *Discovered by* MUHLENBERG.

Rocky woods, fields. Valley of the Mohawk, *Knieskern.* Dry sandy hills near Irondequoit bay, *L. Holzer.* Braddock's bay, Monroe county, *Bradley: Sartwell: Dewey.* Rare. June.

CHORDORHIZA, *L.* *Cord-rooted Carex.*

Cold swamps, lake and river borders. Hidden lake and Jerusalem marsh, abundant. Oriskany swamp, *Knieskern.* Junius, Seneca county, *Sartwell.* Boggy margins of lakes in the north woods, frequent. St.Lawrence river near Ogdensburgh, *Crawe, Eaton bot.* Rare. July.

CEPHALOIDEA, *Dewey.* *Head-like Carex.*

Fields and hedges. Banks of the Mohawk between Oriskany and Rome, *Vasey.* Penn-Yan, *Sartwell in herb. Ham. Coll.* Infrequent. June.

SPARGANIOIDES, *Muhl.* *Sparganium-like Carex.*

Wet meadows, low thickets. Common. June.

ROSEA, *Schkuhr.* *Rose-like-headed Carex.*

Cedar swamps. Abundant. June.

var. RADIATA, *Dewey.* *Radiate-fruited Carex.*

Meadows and open woods. Occasional. June.

RETROFLEXA, *Muhl.* *Reflexed-fruited Carex.*

Wet woods, moss marshes. Frequent. June – August.

DISPERMA, *Dewey.* *Two-seeded Carex.*

Swamps, especially those of arbor vitæ; abundant in all. May, June.

VULPINOIDEA, *Michaux.* *Fox-like Carex.*

Ditches. Common. June, July.

SCABRIOR, *Sartwell.* *Rougher Carex.*

Wood-borders, copses. Penn-Yan, Yates conty, *Sartwell.* Rare. June, July.

SETACEA, *Dewey.* *Awned-fruited Carex.*

Moist banks. Abundant at the head of Hidden lake, Litchfield, south Herkimer county. Infrequent. June, July.

TERETIUSCULA, *Goodenough.* *Rounder-headed Carex.*

Swamps. Borders of Summit lake, and in the open marsh-land northward, Otsego county. Margins of Mud lake; in the State marsh; and on Hidden lake; south Herkimer county. Oriskany, *Knieskern.* Western part of the State, *Gray Gram. & Cyp.* Penn-Yan, *Sartwell.* Frequent. June, July.

STIPATA, *Muhl.* *Crowded-spiked Carex.*

Wet meadows. Abundant. May, June.

ALOPECOIDEA, *Tuckerman.* *Foxtail-like Carex.*

Grassy woods. Oneida county, *Vasey.* Yates county, *Sartwell.* Rare. June, July.

STELLULATA, *Good.* *Star-like Carex.*

Deep swamps of cedar or sphagnum. Common. June.

SCIRPOIDES, *Schkuhr.* *Scirpus-like Carex.*

Arbor vitæ swamps. Frequent. May.

CURTA, *Good.* *Short-fruited Carex.*

Marshes. Frankfort hill, abundant around Wetmore's sphagnum pond. Oriskany. Rome. Swamps of the north woods. Frequent. June, July.

TENELLA, *Ehrhart.* *Slender Carex.*

Bogs of Rome. Beyond Fort Bull, in low open woods. In the extensive swamp northwest of New-London, north side of Wood creek. Rare. June.

DEWEYANA, *Schkuhr.* *Discovered by* DEWEY.

Shady ravines, damp woods. Around Mud lake, Warren : grove on the banks of Cedar lake, Litchfield: south Herkimer county. Rich bottoms of Starch-factory creek near Utica, and over the mossy sides of many deep ravines at its head. Shaded rocky banks of Fish creek, from Taberg northward. Scarce. July.

TRISPERMA, *Dewey.* *Three-seeded Carex.*

Cedar and sphagnum swamps. Frankfort hill. On the flats of the Mohawk below Utica. Near Oneida lake, *Knieskern.* South-Trenton. North woods. Abundant. July.

ARGYRANTHA, *Tuckerman.* *Silver-flowered Carex.*

Borders of low woods near the sphagnum swale of South-Trenton. Rare. June, July.

TENUIFLORA, *Wahlenberg.* *Small-flowered Carex*

Open moss-swamp west of Fort Bull, Rome, south of the Erie canal, where it is abundant. Formerly in the Oriskany swamp, *Vasey;* but now all gone. Rare. June.

STRAMINEA, *Wahlenberg.* *Straw-colored Carex.*
Swamps and their borders. Frequent. May, June.

MIRABILIS, *Dewey.* *Notable Carex.*
Wet meadows. Bottoms of the Mohawk river. Flats of Fish creek. Frequent. June.

CRISTATA, *Schweinitz.* *Plume-headed Carex.*
Low grounds. Abundant. June.

LAGOPODIOIDES, *Schkuhr.* *Hare's-foot, Lagopus-like Carex.*
Marshes, shady wet woods. Frequent. June, July.

TENERA, *Dewey.* *Pliant Carex.*
Swamps. Common. June.

FESTUCACEA, *Schkuhr.* *Festuca-like Carex.*
Meadows, copses. Uncommon. July.

SCOPARIA, *Schkuhr.* *Broom-like Carex.*
Roadsides, bogs. Common. July.

SYCHNOCEPHALA, *Carey.* *Clustered-headed Carex.*

Spicis androgynis inferne masculis crebris arcte capitato-aggregatis foliosobracteatis; stigmatibus 2; perigyniis compressis e basi ovato-lanceolata abrupte contracta subsessili longe sensimque rostratis apice bifidis margine scabris squamam hyalinam lanceolatam abrupte mucronatam paulo superantibus.

*Hab.* In Nov. Ebor. Comitat. "Jefferson," ubi legerunt cl. I.B.Crawe, M.D., et cl. W.A.Wood, M.D.

Culm about a foot high, leafy, smooth; spikes sessile, densely clustered, forming a compound capitate spike subtended by 3 long unequal foliaceous bracts much exceeding the spike. Perigynium tapering from an abruptly contracted ovate base into a long and slender scabrous bifid beak, a little exceeding the lanceolate abruptly mucronate scale. Achenium ovate, compressed, crowned with the lengthened style.

This plant, which has a great resemblance to *C. cyperoides*, LINNÆUS, differs from that species in the nearly sessile perigynium, which tapers from a much wider and contracted (not attenuated) base into a shorter beak, of which the teeth are also shorter than in the European plant. The perigynia are more crowded on the rachis than in *C. cyperoides*, the spikes of which, owing to the greater length of the beaks, have a more comose appearance than in our plant. The scale is shorter, abruptly mucronate, and not gradually tapering as in *C. cyperoides;* and the achenium is ovate, not ovate-oblong as in that species: CAREY *in Sill. Jour.*

Moist banks, wet meadows. Borders of woods, roadside between Watertown and Adams, where it was discovered by *Knieskern* and *Vasey*, about the year 1844. Watertown, received from *Crawe*, *Dewey*. Littlefalls, above the village, between the canal and the river, in a low meadow, *Vasey*. Rare. June, July.

LENTICULARIS, *Michx.* *Lentil-fruited Carex.*

On an island in Lake Sanford, not far from the McIntyre Iron-works, *Knieskern*. Sandy shores of Fourth lake in the chain of Eight, north Herkimer county: only at the water's edge, often in shade, where it grows two feet high, but on exposed banks it bears full-sized spikes at the height of four or five inches: abundant there. Rare. July, August.

AUREA, *Nuttall.* *Golden-fruited Carex.*

Wet rocks and banks. Ledges within reach of the spray from the upper falls, Trenton falls. West-Canada creek, *Gray*. Marshy slopes round Cedar lake: hillsides of Hidden lake, Litchfield: south Herkimer county. Low grass-lands along the road between Vanhornsville and Summit lake, Springfield, Otsego county. Banks of Oriskany creek, *Knieskern*. Scarce. June.

TORTA, *Boott.* *Curving-spiked Carex.*

Low grounds of streams. Starch-factory creek Oriskany creek. Fish creek. Abundant in a few localities, Yates county, *Sartwell.*

Uncommon. May, June.

VULGARIS, *Fries.* *Universal Carex.*

Swamp near Oriskany, *Knieskern.* Rare. June.

STRICTIOR, *Dewey.* *Close-leaved Carex.*

Borders of ponds, swamps Frequent. May, June.

STRICTA, *Goodenough.* *Upright-leaved Carex.*

Bogs. Common. May, June.

ANGUSTATA, *Boott.* *Narrow-leaved Carex.*

Beaver-meadows and marshes of the north woods, abundant. Cold swamps on the south range of hills. Junius, Seneca county, *Sartwell.* Infrequent. July.

AQUATILIS, *Wahl.* *Water Carex.*

Upland swamps. Around Summit lake, and over the open moss swamp above it, Otsego county. Borders of Mud lake, Warren; on Hidden lake, and the State marsh, Litchfield; south Herkimer county. Junius, Seneca county, *Sartwell.*

Filiform peduncles of fertile spikes, sometimes a foot in length, occasionally proceed from near the root. Scarce. July.

GYNANDRA, *Schweinitz.* *Double-spiked Carex.*

Swamps. Rome, abundant west of Fort Bull. Frequent. June.

CRINITA, *Lamarck.* *Fringed-spiked Carex.*

Stream-sides. Common. June, July.

POLYTRICHOIDES, *Muhl.* *Haircap-moss, Polytrichum-like Carex.*

Cedar and moss swamps. Common. June.

LEUCOGLOCHIN, *Ehrhart.* *White-arrowheaded Carex.*

Sphagnum swamps. Scarce about Wetmore's pond, Frankfort hill. Common on the swale of South-Trenton. Near North pond. Abundant in the north woods, in nearly all mossy lowlands. Near Watertown, *Gray Gram. & Cyp.* Rare. June, July.

PEDUNCULATA, *Muhlenberg.* *Long-peduncled Carex.*

Shady hillsides and rich ravine bottoms. Abundant. May.

WILLDENOWII, *Schkuhr.* *In honor of* WILLDENOW.

Dry banks. Watertown, Jefferson county, *Crawe, Gray Gram. & Cyp.: Knieskern.* Yates county, *Sartwell.* Rare. June.

STEUDELII, *Kunth.* *Discovered by* STEUDEL.

Hilly woods. Jefferson county, New-York, *Wood.* Watertown, *Dr. W. A. Wood, Dewey.* Rare. June.

BACKII, *Boott.* *Dedicated to* BACK.

Rocky banks. On an island in Perch lake, *Crawe, Dewey.* About Watertown, *Knieskern.* Dexter, Jefferson county, *Vasey.* Rare. June.

SQUARROSA, *L.* *Squarrose-spiked Carex.*

Bogs. Near Bath, Steuben county, *Knieskern: Sartwell.* Scarce. June, July.

VIRESCENS, *Muhl.* *Green-spiked Carex.*

Shady hillsides, moist woods. Frankfort hill. Cascade glen, southeast of Utica; abundant about the upper falls. Oriskany, *Knieskern.* Woodlands along the cliffs of Fish creek. Monroe county, *L. Holzer.*

Frequent. June, July.

HIRSUTA, *Willdenow.* *Hair-sheathed Carex.*

Wet meadows. Schenectady, northeast of College buildings; and along the brow of the Rotterdam hills. Littlefalls, flats of the Mohawk above the village, south side of the river. Penn-Yan, Yates county, *Sartwell.*
Frequent. June.

BUXBAUMII, *Wahlenberg.* *Honorary to* BUXBAUM.

Swamps. Junius, *Sartwell.* Banks of the Genesee river, Greece, *Bradley.* At the head of the swamp in West-Bergen, Genesee county. Rare. June.

GRACILLIMA, *Schweinitz.* *Slender Carex.*

Meadows, copses, woods. Common. June, July.

FORMOSA, *Dewey.* *Handsome Carex.*

Moist banks and woodlands. Site of old Fort Bull, Rome. *Vasey.* Penn-Yan, *Sartwell.* Infrequent. June.

DAVISII, *Torrey.* *Dedicated to* E. DAVIS.

Shaded banks. Utica, *Gray Gram. & Cyp.* Along the Mohawk banks opposite Whitesboro, under three butternut trees; below, on wooded hillsides bordering a Cephalanthus swamp. Oriskany, *Vasey.* Frequent. June.

UMBELLATA, *Schkuhr.* *Umbellate Carex.*

Rocks; sandy hills and plains. Over the river and above Utica. Oriskany, *Dewey: F. Boott.* Western part of the State, *Gray Gram. & Cyp.* Abundant on the dry plains of Rome. Tufts on the sides of Bald rock, north of Third lake, north Herkimer county. Penn-Yan, *Sartwell.* Abundant.

var. VICINA, *Dewey.* *Near-headed Umbellate Carex.*

The form with one or two heads of fruit close beneath the sterile spike, is found on the barren ridges bordering the open sphagnum swamps beyond Rome, Frequently. June.

EMMONSII, *Dewey.* *Dedicated to* E. EMMONS.

Dry banks. Oriskany, Oneida county; Mount Hope, Rochester; *Dewey.* Abundant in a few localities, Yates county, *Sartwell.* Webster, Monroe county, *L. Holzer.* Infrequent.

var. ELLIPTICA, *Boott.* *Long-fruited Carex.*

Spicis congestis; perigyniis longioribus ($1\frac{6}{10} - \frac{8}{10}$ lin. longis, $\frac{6}{10}$ latis) hirsutis squamam subduplo superantibus; achenio elliptico triquetro ($1\frac{1}{10}$ lin. longo, $\frac{1}{2}$ lin. lato), basi styli decidua. Tab. CCLXXXVII. New-York, *Knieskern.*

The var. has a longer body to the perigynium and a longer achenium, and the pubescence is softer and longer, and the proportionate length of the perigynium to the squamæ gives a peculiar aspect to the spike. It has not been noticed by authors: F. BOOTT.
Penn-Yan; Rochester; *Dewey.* Infrequent. July.

PENNSYLVANICA, *Lamarck.* *Pennsylvanian Carex.*

Shady banks and deep thickets. Sides of the Mohawk valley, from Schenectady to Littlefalls. Sandy ridges opposite Whitesboro, north side of the Mohawk. Common on the plains of Rome.

Radical peduncles of fertile spikes, in addition to the usual one below the sterile, appear frequently in specimens from the pine woods of Schenectady county; and from sand-ridges among the sphagnum swales west of Rome, between the Oswego county road and Wood creek. Abundant. May.

NOVÆ-ANGLIÆ, *Schweinitz.* *New-England Carex.*

Mountain streams. From Mount Marcy, N.Y., *Dewey.* Adirondac river, Essex county, *Knieskern, Torrey Fl. N.Y.* Lake Sanford, *Knieskern.*
Rare. July.

VARIA, *Muhl.* *Variable-sized Carex.*

Dry rocks and banks, both open and shaded. Common. May.

VESTITA, *Willdenow.* *Hair-clothed-fruited Carex.*

Sandy copses. Pine plains of Schenectady, *Knieskern: Pearson: Tuckerman: F. Boott.* Rare. June.

PUBESCENS, *Muhl.* *Pubescent Carex.*

Open rich woods, river-bottom meadows. Banks of the Mohawk river opposite Whitesboro, on sandy sidehills. Meadows, Oriskany. *Knieskern.* Watertown, Jefferson county, *Gray Gram. & Cyp.*

Occasionally a specimen occurs having an additional fertile spike on a long slender peduncle, nearly radical. Infrequent. June.

FLAVA, *L.* *Yellow Carex.*

Low grounds, meadows, swamps, shores; most abundant in limestone soils. Littlefalls; Mud lake; swamp of Cedarville; between Day's corners and Cedar lake; around Cedar lake; on Hidden lake and the State marsh, Litchfield; south Herkimer county. Utica, Oriskany, *Knieskern.* Swamps of Rome, west of Fort Bull. Trenton falls, on the rocks opposite the upper falls, in the spray; a small form. Abundant between Steuben station and Boonville; and common along the wet banks of North pond.

Frequent. June – August.

OEDERI, *Ehrhart.* *Oederian Carex.*

Wet banks. Shore of Lake Ontario near Sackett's-harbor, *Crawe, Gray Gram. & Cyp.* Watertown, Jefferson county, *Vasey.* Abundant in the swamp of West-Bergen, Genesee county; a large form. Rare. June, July.

FOLLICULATA, *L.* *Inflated-fruited Carex.*

Swamps. Frankfort hill, round Wetmore's bear-pond. Oriskany and Oneida lake, *Knieskern.* Western part of the State, *Gray in Rare plants of Northern N.Y.: Gram. & Cyp.* Abundant in the shady swamps of Rome, from old Fort Bull to New-London. Sphagnum swale adjoining North pond. Abundant on the borders of beaver-meadows and swamps of the north woods.

In marshes occasionally it occurs not over a span high, with two or three full-sized heads of fruit; and at the same time, within a few feet, on firmer ground, it grows to the height of four feet or more. Frequent. June, July.

ROSTRATA, *Michaux.* *Rostrate-fruited Carex.*

Shores and elevated marshes. Overflowed sandy point on the south side of Fourth lake in the chain of Eight; abundant on the level marshes surrounding two ponds, at each end of Bald rock; north Herkimer county.

In bogs, dwarf forms are found, five or six inches high, with two or three perfect heads of fruit. Rare. June – August.

INTUMESCENS, *Rudge.* *Swollen-fruited Carex.*

Wet meadows and swamps. Common. June, July.

GRAYII, *Carey.* *Discovered by* GRAY.

Spica mascula solitaria pedunculata; spicis fœmineis 2 globosis densi- (25 – 30-) floris exserte pedunculatis; stigmatibus 3; perigyniis deflexo-patentibus ovatis ventricosis multi-nervosis rostratis ore bifidis squamam ovatam hyalinam mucronatam triplo superantibus.

*Hab.* Ad ripas fluminum "Mohawk" et "Wood creek," Nov. Ebor. occident. detexit cl. A. Gray, M.D.

Culm 3 feet high, robust, triquetrous, smooth and leafy. Leaves taller than the culm, 4 – 5 lines broad, rough on the margin. Sterile spike $1\frac{1}{2}$ – 2 inches long: fertile spikes globular, occasionally single, but generally 2, quite distinct and separate, $1\frac{1}{2}$ inch in diameter. Perigynia crowded, deflexed, smooth and shining, 9 lines in length, 25 – 30-nerved, tapering into a long perfectly glabrous beak. Achenium obtusely triangular, minutely dotted under a lens, crowned with the long continuous style.

Dr. GRAY, who first detected this plant on the banks of the Mohawk at Utica, and described it as a variety of *C. intumescens*, RUDGE, remarks that

it "is characterized by its larger and coarser habit, and by its globose many-flowered pistillate spikes. It flowers a month later than the ordinary form of the species, and when young might readily be mistaken for *C. lupulina*." To this may be added, that *C. intumescens*, owing to the scarcely exserted peduncles, has the loose few- (5–8-) flowered spikes closely approximate, so as to be almost indistinguishable; and the perigynia are erect, much shorter (6–7 lines long), slightly serrulate towards the apex of the beak, and only 15–20-nerved. Though closely resembling *C. intumescens*, these constant characters, and a marked difference in aspect, appear to entitle this plant to rank as a species: CAREY *in Sill. Jour.*

This species was found by Dr. GRAY in meadows at Utica, and described, in 1834, in the Ann. Lyc. N.York, as a variety of *C. intumescens*. The large globular female spikes, the smooth perigynium with its gradual acumination into a short rostrum, its more copious nerves, stouter and smoother culm and broader leaves, sufficiently distinguish it: F. BOOTT.

Rich river-bottoms. On the flats of the Mohawk below Utica, in meadows, *Gray*. Above Utica and opposite Whitesboro. Oriskany, *Knieskern: Vasey*. Wood creek, *J. Carey*. Reappears in the valley of the Genesee river.
Frequent. July, August.

LUPULINA, *Muhlenberg.* *Hop-fruited Carex.*

Bogs on the flats of streams, borders of swamps. Common. July, August.

LUPULIFORMIS, *Sartwell.* *Hop-formed Carex.*

Cold marshes. Highlands of New-York, *Barratt, Gray Gram. & Cyp.* Yates county, *Sartwell*. Uncommon. July.

TENTACULATA, *Muhl.* *Tentacle-fruited Carex.*

Marshy places. Common.

var. PARVULA. *Small Tentacle-fruited Carex.*

A form occurs on wet flats of the Mohawk from Littlefalls to Rome, which is much smaller and more slender than the common plant, with spikes and perigynia less than half the usual size, and of a red-brown color. The scales also are oblong-lanceolate, and nearly entire or even at the end.

var. ROSTRATA, *Sartwell.* *Large-beaked Tentacle-fruited Carex.*

Water-sides. Penn-Yan, Yates county, *Sartwell*. June, July.

PLANTAGINEA, *Lamarck.* *Plantain-leaved Carex.*

Ravine-sides and cedar swamps. Common. May.

CAREYANA, *Dewey.* *Discovered by* CAREY.

Dry woods. Jefferson county, *W. A. Wood*. Found near Auburn in 1832 by JOHN CAREY. Woods near the Genesee river, four or five miles above Rochester, *W. Boott: Dewey*. Copses in Henrietta, Genesee county.
Rare. May.

LAXIFLORA, *Lamarck.* *Loose-flowering Carex.*

Moist woods. Common.

var. INTERMEDIA, *Boott.* *Intermediate Loose-flowering Carex.*

Open woods. Oriskany, *Vasey, F. Boott*. About Utica, in all ravines, river-bottoms, copses. Yates county, *Sartwell*. Abundant. May, June.

var. PATULIFOLIA, *Dewey.* *Wide-leaved Loose-flowering Carex.*

Deep rich woods. Frequent.

PLATYPHYLLA, *Carey.* *Flat-leaved Carex.*

Limestone rocks and hillsides. Littlefalls, shady cliffs of Fall hill, south of the Mohawk. Litchfield, springy sloping meadows between Cedar lake and Hidden lake. Among loose rocks of the Chittenango creek ravine. Wooded sides of the Black river between Brownville and Dexter. Infrequent. June.

BLANDA, *Dewey.* *Delicate-formed Carex.*

Dry woods and meadows. Common. June.

RETROCURVA, *Dewey.* *Drooping-fruited Carex.*

Copses. Pleasant valley of Oriskany creek, above the dam, *Vasey.* Penn-Yan, Yates county, *Sartwell.* Rare. June.

CONOIDEA, *Schkuhr.* *Conical-fruited Carex.*

Wet meadows. Schenectady, a mile or more northeast of the Colleges. Western part of the State, *Gray Gram. & Cyp.* Frequent in Yates county, *Sartwell.* Scarce. June.

GRISEA, *Wahlenberg.* *Gray-fruited Carex.*

Moist woods, thickets, banks. Common. June.

DIGITALIS, *Willdenow.* *Finger-length Carex.*

Shaded hillsides. Watertown, Jefferson county, *Crawe, Gray Gram. & Cyp.* The true form from Jefferson county, *Dewey.* Dexter, *Vasey.* Yates county, *Sartwell.* Frequent about Rochester, *C. M. Booth.* Wet meadows, Greece, Monroe county, *L. Holzer.* Uncommon. June.

EBURNEA, *Boott.* *Ivory-scaled Carex.*

Cliffs. Helderberg mountains, *Pearson.* Abundant at Littlefalls, south side of the river. Trenton falls. Fish creek precipices, on Hudson river sandstones. Western part of the State, *Gray Gram. & Cyp.* Watertown, N.Y., *Crawe, Schwein. & Torrey Carices.* All along Crooked lake outlet, *Sartwell.*

Wet woods. Shady borders of the swamp in West-Bergen, Genesee county; in similar stations as those of *C. gynocrates* and *C. disperma.* Scarce. June, July.

GRANULARIS, *Muhlenberg.* *Granular-spiked Carex.*

Wet meadows, along streams. Common.

var. RECTA, *Dewey.* *Straight-beaked Granular-spiked Carex.*

Sterile meadows at Schenectady, a mile or more northeast of Union College: abundant there.

On the tops and sides of the Rotterdam hills occurs a form having short wide root-leaves, broad foliaceous bracts, a single staminate spike sessile at the base of and shorter than the highest fertile one, fertile spikes three or four nearly sessile, perigynia long-ovoid and beakless. Rare. June.

VAGINATA, *Tausch.* *Sheathed-culmed Carex.*

Spica mascula solitaria, pedunculata, oblonga, sub anthesi infracta, femineis subbinis, ternisve, exserte pedunculatis, remotis, erectis, oblongis, laxifloris; bracteis foliaceis, vagina dilatata patula; stigmatibus tribus; utriculis squama apice carinata longioribus, oviformi-triangularibus, basi attenuatis, glabris, rostro brevi, inæqualiter bidentato; culmo lævi, striato, basi foliato; foliis margine sursum scabris; caudice stolonifero : KUNZE *Suppl. zu Schkuhr Riedgr.*

Plants growing in large patches, from creeping roots. Stolons three to ten inches in length; invested with sheaths about as long as the nodes. Leaves radical; very long, twelve to eighteen inches; very narrow, only a line and a half wide; glabrous, but rough on the margin from base to end; acuminate; light green. Culms one to two and a half feet in length, usually about twenty inches; with one to three sheaths at base prolonged into short leaves; compressed, flat; striate; smooth or harsh above on the ridges; filiform, weak, leaning from the root with its spikes bending over nearly to the ground, or the whole stem reclining on the leaves; sheathed toward the end. Sheaths from knots of the culm, cylindrical for about an inch, then open and ending as short narrow sharp bracts ciliate or scabrous margined; enclosing the peduncles of the fertile spikes and sometimes the fruit itself. Peduncles a little longer than the sheaths, rarely four inches long if rising from near the root, slender, erect or when elongated drooping with the fruit. Fertile spikes usually two, often only

one, rarely three; remote, three to five inches; cylindric; about an inch long, loose-flowered, often much longer with scattered alternate fruit on a zigzag rachis. Perigynia rarely globose, with a short beak contracted from its base; commonly trigonal, narrowed below, bearing a distinct rostrum nearly a line in length, which is turned obliquely outward to a greater or less degree; or frequently long-oval tapering upward, two lines in length, bending with the short beak slightly to one side; nerved; quite smooth. Rostrum rarely bidentate, and hairy at the orifice or down the inside; usually entire and obliquely truncated. Achenium short, triquetrous, with sharp angles; tristigmatic; stigmas long, exserted one or two lines beyond the beak. Scales ovate, acute, shorter than the perigynia; with green keels and red margins. Staminate spike single, distant two to four inches from the highest pistillate one; long-elliptical; with lanceolate, nearly obtuse, brown scales; frequently having its peduncle bent at the base, or sometimes refracted even to a right angle.

Shady humid banks around the swamp in West-Bergen, Genesee county; chiefly within the circle of arbor vitæ, but among other low evergreens in half-open places and rivulet-sides on the southern border, sometimes in company with *C. gynocrates*.

This species has been found before in Northern America only at Rivière du Loup on the St.Lawrence recently by *W. Boott*, at Montreal formerly by *W. F. Macrae*, and in the Saskatchawan district long ago. In Europe it is an alpine plant, ranging from the Swiss Alps to Lapland and Iceland.

Local. June.

LIVIDA, *Wahlenberg.* *Livid Carex.*

Cold marshes. Formerly in the Oriskany swamp, *Knieskern: Gray: Vasey.* Litchfield, south Herkimer county, nearly a mile southwest of Jerusalem hill, in the center of a deep swamp among the East dry-lots, one of the sources of the Unadilla river. The open lowest part is a marly bog, covered in many places or scattered over all, with this most rare and interesting species. Local.

var. RADICALIS. *Radical-fertile-spiked Livid Carex.*

With the typical form, on the State marsh, Litchfield. Spikes two, one staminate and one pistillate, on separate peduncles, both springing together from the root; that of the fertile spike nearly as long as the culm of the sterile, erect.

Specimens of this variety are very scarce, perhaps two or three occurring in a hundred of the regular species. The same variation has been observed by Dr. KNIESKERN in the swamps about Manchester, N.J. June, July.

TETANICA, *Schkuhr.* *Crooked-beaked Carex.*

Swampy meadows. To be looked for on the upland marshes among the hill-tops of south Herkimer county. Junius, Seneca county, *Sartwell.*

Rare. June.

WOODII, *Dewey.* *Discovered by* W. A. WOOD.

River-banks, shores. On an island in Perch lake, *Wood: Crawe: Dewey.* Dexter, Jefferson county, *Vasey.* Rare. June.

OLIGOCARPA, *Schkuhr.* *Few-fruited Carex.*

Dry copses. Borders of sandy plains, Rome, *Knieskern.* Banks of Wood creek between New-London and Oneida lake, *Gray: Gram. & Cyp.* Penn-Yan, Yates county, *Sartwell in herb. Ham. Coll.* Rare. June.

HITCHCOCKIANA, *Dewey.* *Dedicated to* EDWARD HITCHCOCK.

Open woods. Watertown, Jefferson county, *Crawe, Gray in Rare plants of Northern N.Y.: Gram. & Cyp.* Auburn, Cayuga county, *J. Carey.* Penn-Yan, Yates county, *Sartwell.* Sandy grove-lands on the Ridge road near Irondequoit bay, Monroe county, *L. Holzer.* Abundant south of Rochester, *Dewey.* Infrequent, June.

DEBILIS, *Michx.* *Weak-stemmed Carex.*

Damp woods, hills and hillsides. Abundant throughout the valley of the Mohawk. On Frankfort hill near Wetmore's pond. Site of old Fort Bull on Wood creek, Rome, *Vasey*. Borders of streams near Oneida lake, *Knieskern*. Common in the north woods, Lewis and north Herkimer counties.

A small form on the sides of Bald rock. Frequent.

var. *β ; Boott.* *Long-scaled Weak-stemmed Carex.*

Spicis 5 – 7 erectis, terminali mascula vel medio vel basi vel apice et basi mascula, fœmineis linearibus angustis flosculis alternatim dispositis, inferioribus sæpe basi compositis ; perigyniis brevioribus, rostro rarius scabro, squama oblongo-ovata obtusa vel acuminata acuta mutica ciliata subæquilata longioribus. Hab. New-York, *Sartwell.*

Between *a* and *β* there are intermediate forms which insensibly unite them. The specimens figured approach *C. arctata ;* but the scales and the sessile perigynium, with its acute base, at once distinguish them : F. Boott.

Rare. June.

GLABRA, *Boott.* *Smooth Carex.*

Woods and plains.

Spicis 4 – 5 oblongis vel cylindricis pedunculatis pallidis, terminali apice vel basi vel apice et basi rarius omnino mascula, reliquis fœmineis subdensifloris, superioribus approximatis inferioribus longe exserte pedunculatis nutantibus basi attenuatis laxifloris interdum compositis, infima remota; bracteis vaginatis culmum subæquantibus; stigmatibus 3 ; perigyniis triquetris turgidis lanceolato-ellipticis utrinque acutis vel rostellatis glabris, ore bidentato, (laciniis acutis) nervatis nervis prominentibus pellucide punctatis viridibus, squama ferruginea medio viridi nervata scabra ovato-lanceolata acuta vel mucronata rarius obtusa ciliata latioribus subduplo longioribus. (Tab. CCLXXV.) Hab. In America Sept.; New-York. *Knieskern.*

Culmus $1\frac{1}{2} - 2\frac{1}{2}$ pedalis, apice setaceus, scaber; pars spicas gerens 4 – 9 poll. longa. Folia $\frac{1}{2}$ lin. lata, supra vaginæque inferiores scabriusculæ. Bracteæ (nisi suprema) vaginatæ, culmum subæquantes, vel infima nunc eo brevior. Vagina infima sub 2 poll. longa, scabriuscula. Pedunculi setacei, scabri, 2 – 3 poll. longi. Spicæ 8 – 21 lin. longæ, 2 lin. latæ. Squamæ ferrugineæ, medio viridi nervatæ, scabræ : masculæ lanceolatæ, obtusæ, muticæ, apice ciliatæ : fœmineæ acutæ vel obtusæ, mucronatæ. Perigynium $2\frac{7}{10} - 3$ lin. longum, $\frac{8}{10} - \frac{9}{10}$ lin. latum, bidentatum, laciniis acutis (nec membranaceis), nervis usque ad apicem conspicuis. Achenium 1 lin. longum, $\frac{6}{10}$ lin. latum, ovali-triquetrum, stipitatum, basi styli apiculatum, flavidum.

A *C. oxylepide* differt culmo, foliis pedunculisque glabris (nec pilosis) ; perigyniis majoribus; squamis mucronatis ; spicis inferioribus nutantibus, compositis.

A *C. formosa* differt spicis inferioribus, omnino fœmineis, etc.

A *C. debili* differt perigyniis rostellatis, ore acuta bidentato nec hyalino, magis turgidis ; nervis validioribus ; squamis firmioribus.

I have received this species under the names of *C. formosa* and *C. debilis*. The absence of the subelongate rostrum, and of the hyaline obtuse orifice, separates it from *C. debilis* and its allies. It has hitherto escaped the notice of American botanists, and its value as a species must be determined by future observation : F. Boott.

Spicis distinctis cylindraceis pedunculatis ; terminali staminifera, interdum ad apicem vel basin pistillifera, vel in medio ; spicis pistilliferis, 3 – 4, sublaxifloris, bracteatis, inferne longo-pedunculatis et nutantibus ; fructibus tristigmaticis ovalibus subinflatis et inferne teretibus, superne conicis brevirostratis, bidentatis glabris nervosis, squamam oblongam subacutam vel lanceolatam multo superantibus; planta pallida et glabra.

Culm 1½ foot high, slender, erect, leafy toward the root; staminate spike slender, sometimes with a few fruit at the apex, in the middle or at the base; pistillate spikes 3 – 4, cylindric, slender, rather loose-flowered, on slender peduncles with sheathing bracts which equal the culm nearly; stigmas 3; fruit oval, tapering below and conic above, smooth and glabrous, nearly twice longer than the oblong acutish scale which is white on the margin and green on the back : whole plant light green.

This plant is the well-known glabrous form of *C. flexuosa*, SCHKUHR, the *C. debilis*, MICHAUX, and blended with it, till Dr. BOOTT separated them in 1860 : DEWEY *in Sill. Jour.*

The glabrous form of the old *C. flexuosa;* this was extended to *C. debilis*, MICHAUX, and then was remote from *C. glabra*, BOOTT : received from Rome or Oriskany, *Dewey*. Local. June.

ARCTATA, *Boott.* *Contracted-beaked Carex.*

Shady banks. Littlefalls, south side of the river below the town. Ravine-bottoms and ridges, throughout the flats, and among the headwaters of Starch-factory creek. Frankfort hill, copses and groves near bear-pond; abundant on Jerusalem hill, bordering the cedar swamp of the State marsh; wooded sides of Hidden and Cedar lakes; south Herkimer county. Banks of Oriskany creek opposite the Dexter factories. Woodlands between Oriskany and Rome. Beyond Rome, cleared land west of Fort Bull, with *C. flexilis*. Valley of Fish creek north of Taberg, above the cliffs. Occasional in the north woods. Infrequent. May, June.

KNIESKERNII, *Dewey.* *Discovered by* KNIESKERN.

Copses. Rome and Oriskany, from *Knieskern, Dewey*. In a shady field near Fort Bull, *Vasey*. Local. June.

FLEXILIS, *Rudge.* *Flexile Carex.*

Low borders of woods. Litchfield, southwestern Herkimer county, Cedar lake, on the moist sloping banks scattered with young evergreens; where it was first observed in the United States, and received from the discoverer a far better name, *C. blepharophora*, GRAY *in Rare plants of Northern N.Y.* Old Fort Bull on Wood creek, *Knieskern : Vasey*. Abundant still in the clearings and swamps west of the fort and south of the Erie canal.

Rare. May, and early in June.

RICHARDSONII, *R. Brown.* *Dedicated to* RICHARDSON.

Dry woods, Parma, Monroe county, north side of the ridge, *Bradley*. Discovered in this locality long before the expedition to British America, *Dewey*.

Rare. July.

TORREYI, *Tuckerman.* *Honorary to* TORREY.

Spica mascula solitaria, fem. 2 – 3 incluse pedunculatis erectis, stigmatibus 3, fructibus subglobosis obovatis obtusis nervosis glabris rostello brevi integro mucronatis, squama acuta mucronata duplo longioribus, caule foliis bracteis squamisque ad carinam pubescentibus. HAB. Nov. Ebor., Torr.! in herb. Hook. (sub *C. pallescente*). Pedalis et sesquipedalis, omnino nisi fructus pubescens : TUCKERMAN *Enum. Car.*

Utica, *Gray*. Received from the central part of the State, *Dewey*.

Local. June, July.

CRAWEI, *Dewey.* *Discovered by* CRAWE.

Limestone rocks and banks. Guffin's bay in Black river near Watertown, *Crawe, Dewey*. At the mouth of Black river, Sackett's-harbor, *Vasey*. Cedar lake, Litchfield, south Herkimer county, south side, on moist marly slopes under young arbor vitæ. Barren spots of marl in the swamps of West-Bergen, Genesee county. Rare. June, July.

SCABRATA, *Schweinitz.* *Rough Carex.*

Swamps, streams, cold bogs in meadows and woods. Common. June, July.

PALLESCENS, *L.* *Pale Carex.*

Wet rocks and meadows. Common on the flats of the Mohawk. Trenton falls, on rocks wet by the spray from the upper falls. Cliffs of Fish creek above Taberg. Frequent. June.

LIMOSA, *L.* *Bog Carex.*

Moss marshes. Litchfield, south Herkimer county, abundant on Hidden lake and the State marsh of Jerusalem hill; sphagnum borders of Wetmore's pond, Frankfort hill. North pond, southwest of Boonville. Common in the lake-marshes and mossy lowlands of the Northern wilderness. Frequent.

var. RADICALIS. *Radical-fertile-spiked Bog Carex.*

Level bogs. round Wetmore's sphagnum pond on Frankfort hill, south Herkimer county.

An extremely rare state having two spikes only, the sterile at the top of the naked erect stout culm, the fertile drooping at the end of a filiform radical peduncle four to nine inches long.

This is considered a variety, because the peduncles of both sterile and fertile spikes rise together from the root. Many other species bear fertile spikes on long peduncles nearly radical, in addition to their usual number on short peduncles just beneath the staminate; but these are regarded as intermediate forms merely. June, July.

MAGELLANICA, *Lamarck.* *From the Strait of Magellan.*

Hab. In Europa et America septentrionali et australi. Lapland to Switzerland. Arctic America to Penn. I have adopted the name of LAMARCK, as I cannot see any specific distinction between the Fuegian and the European and American plant; but I have described the last as the typical form : F. BOOTT. *C. irrigua*, WAHL. HOPP. SMITH.

Cold swamps. Arbor-vitæ and tamarack borders of Mud lake; abundant on the high marshes of Jordanville; south Herkimer county. Still lingering about the station where it used to flourish in the days of the old Oriskany swamp; over the south hill, in a sphagnum bog. Common in the Paris-hill marsh. Throughout the swamps and swales of Rome. About Point of Rock lake, and in all the moss-bogs of the northern part of the county.

In the mossy lowlands of the north woods a tall form abounds, few-flowered and slender-fruited.

In the swamp beyond Fort Bull, Rome, the form having additional spikes on long peduncles, nearly radical, occurs frequently. Rare. June.

MILIACEA, *Muhlenberg.* *Millet Carex.*

Borders of streams, river-bottom meadows. Common, June.

HYSTRICINA, *Willd.* *Porcupine-fruited Carex.*

Ditches, water-sides. Common. July.

PSEUDO-CYPERUS, *L.* *Cyperus-like Carex.*

Marshes, water-courses. North of Summit lake, Otsego county. Shady mossy borders of Mud lake; abundant on the tamarack swamps of Jordanville; sparingly at the head of Hidden lake, Litchfield; south Herkimer county. Oriskany, raceway between the factories, *Knieskern*. In all the cold bogs east of Fish creek, around Point of Rock lake, and through the northern part of the county. Penn-Yan, Yates county, *Sartwell*.
Scarce. July, August.

COMOSA, *Boott.* *Bristly-spiked Carex.*

Bogs in meadows, woods, swamps, and stream-sides.
Common. July, August.

TRICHOCARPA, *Muhl.* *Hairy-fruited Carex.*

Banks of creeks, rivulets, low-lands. Abundant.

var. *β*, *Boott.* *Smooth-fruited Carex.*

Perigyniis glabris, rostro ad margines laciniisque scabris; vaginis scabris. Penn-Yan, *Sartwell;* F. BOOTT. June, July.

LANUGINOSA, *Michx.* *Woolly-fruited Carex.*

Wet meadows. Littlefalls, flats of the Mohawk, south side of the river above the town. Dexter, Jefferson county, *Vasey*. Western part of the State, *Gray Gram. & Cyp.* Yates county, *Sartwell*. Infrequent. June.

FILIFORMIS, *L.* *Filiform-leaved Carex.*

Cold marshes, banks, shores. Summit lake, northern Otsego county. About Mud lake; on the tamarack swamps between Page's corners and Jordanville, Warren; around Cedar lake; common on Hidden lake; State swamp near Jerusalem hill, Litchfield; south Herkimer county. Swamps just over the ridge along the head of Oneida lake. Bogs and lake-shores of the north woods. Frequent. June, July.

STRIATA, *Michx.* *Nerved-striate Carex.*

Swamps and low grounds. Western counties, *Torrey Fl. N.Y.* Near Oriskany, *Vasey*. On an island in Lake Sanford, Essex county, *Knieskern*. Rare. June.

RETRORSA, *Schweinitz.* *Recurved-fruited Carex.*

Wet meadows, marshes. Around the lakes, and in all the cold swamps on the hills southward. Throughout the flats of the Mohawk. Frequent. June, July.

SCHWEINITZII, *Dewey.* *Complimentary to* SCHWEINITZ.

Low rivulet-sides, flats of streams, cedar swamps. Sparingly at Oriskany, in marshy grounds along the railroad; and between Oriskany creek and the raceway. Bridgewater, and swamps in the southern part of the county, *Gray*. Common in the limestone region, from beyond Frankfort hill to Cedar lake, in all rivulet-banks, meadows, ravine-bottoms, swamps; also in the great swamp at Cedarville; south Herkimer county. Rare. June.

MIRATA, *Dewey.* *Admirable Carex.*

Cold marshes. Discovered in June 1829, in Greece, Monroe county, on the banks of a small stream, by Dr. S. B. BRADLEY. The station was destroyed soon after; and the plant has not been rediscovered by most diligent search up the stream and down its length to the Lake, or by thorough exploration of the whole region. Local. June.

LONGIROSTRIS, *Torrey.* *Long-beaked Carex.*

Dry banks. Littlefalls, two miles below the town, among the shaded rocks near the end of the north cliff. Fish creek, Rome, above the crossing of the Oswego county road, in thickets along the banks. Below the bridge, *Vasey*. Vienna, *Knieskern*. Scarce. Early in June.

VASEYI, *Dewey.* *Honorary to* VASEY.

Wet banks.

I find in Tuckerman's herb. specimens associated with *C. monile* from Penn-Yan (the *C. monile* No. 152 of SARTWELL's Collection), which do not agree with the original description of *C. monile*, or with the Ohio specimens from which that description was made. They approach in aspect *C. vesicaria;* but differ from it, and from *C. monile*, in having a long cylindric *serrated* rostrum, an oblong-ovate perigynium, with elongated sharp rough laciniæ : F. BOOTT.

These specimens were *C. vaseyi*, as are all gathered at Penn-Yan by *Sartwell*, DEWEY. Rare. July.

HARTII, *Dewey.* *Discovered by* S. HART WRIGHT.

Spikes extremely variable : the sterile sometimes wanting, usually single, often two or three, frequently with fruit scattered along its sides or with a cluster of perigynia at its base, rarely both, the highest one longest and all slender-cylindric, with linear scales : the fertile, short cylindric, two to seven in number, commonly four; the upper one or two sessile with long leafy bracts, sometimes interrupted by staminate flowers or wholly

sterile at the end, closely fruited; middle ones oblong, short-pedunculate, often two or more springing from the same sheathing bract; the lowest on very long peduncles five to ten inches in length, rising from leaves near the root, recurved, loose-flowered particularly at base, staminiferous at summit occasionally. Stigmas three. Perigynia ovoid or conical, tapering into a long beak ending in diverging teeth, all spreading or somewhat retrorse, three or four times longer than the small lanceolate scale. Culm one to three feet high, erect, smooth nearly to the top. Bracts, sheaths long and narrow; the lower stem leaves extremely prolonged, sometimes twice the length of the culm; all only two or three lines wide, very scabrous on margin, and deeply striate with noded nerves.

Low grounds. Dundee, Yates county, *S. H. Wright;* Ludlowville, Tompkins county, *H. B. Lord;* along Seneca lake, *Dewey*. Abundant in the southwestern part of the State.

var. BRADLEYI, *Dewey*. *Discovered by* S. B. BRADLEY.

Smaller, the whole plant more slender and graceful. Staminate spikes simple, the stamens less scattered on fertile spikes. Perigynia shorter and narrower, with comparatively larger scales.

Along streams. Greece, Monroe county, *Bradley*. Found in searching for *C. mirata*. Near Penn-Yan, Yates county, *Sartwell*. Rare. July.

RIPARIA, *Goodenough*. *Lake-shore Carex.*

Marshes along streams, lakes. Abundant on the flats of the Mohawk, throughout its length; and occasionally ascending its creeks and head-streams. Near Oneida lake, *Knieskern*. Frequent. May, June.

ARISTATA, *R. Brown*. *Bearded-leaved Carex.*

River-banks. Watertown, Jefferson county, *Crawe, Gray in Rare plants of Northern N.Y.: Torrey Cyp.* Brook-side between Watertown and Adams, Jefferson county, *Vasey*. Local. June.

UTRICULATA, *Boott*. *Leathern-bottle-fruited Carex.*

Banks and shores. Abundant.

var. SPARSIFLORA, *Dewey*. *Loose-flowering Carex.*

Watertown, Jefferson county, *Crawe, Dewey*. Local.

var. MINOR, *Sartwell*. *Smaller Leathern-bottle-fruited Carex.*

Omnibus partibus minoribus, F. BOOTT.

Penn-Yan, Yates county, *Sartwell;* Ludlowville, Tompkins county, *H. B. Lord*. Sent from Jefferson county by *Crawe, Dewey*. Rare. June–August.

AMPULLACEA, *Good*. *Flask-fruited Carex.*

Level marshy borders of an elevated pond at the east end of Bald rock, north of Third lake, north Herkimer county. Borders of Cedar lake, south Herkimer county. Rare. July.

MONILE, *Tuckerman*. *Necklace-fruiting Carex.*

Bogs and water-sides. Southern Lewis county, and about a mile south of Boonville, near the canal, around pools, *Knieskern*. Rare. June, July.

TUCKERMANI, *Boott*. *Discovered by* TUCKERMAN.

Low meadows, shady stream-sides. Common. July.

VESICARIA, *L*. *Bladder-fruited Carex.*

Swamps of the north woods near Third lake, Herkimer county. Rare. July, August.

BULLATA, *Schkuhr*. *Bubble-fruited Carex.*

Meadows, on the flats of the Mohawk river; at Littlefalls, and westward. Occasionally in upland marshes. Scarce. June.

PHYSEMA, *Dewey.* *Inflated-fruited Carex.*

Swamps. Utica, Rome, *Knieskern.* New-London and Bridgewater, *Gray.* Penn-Yan, Yates county, *Sartwell.* Infrequent. June.

OLIGOSPERMA, *Michaux.* *Few-seeded Carex.*

Cold marshes. Oneida lake, *Knieskern.* Bogs in the sphagnum swales six miles west of Rome. South-Trenton, in abundance. Common in the beaver meadows, swamps, and pond-borders of north Herkimer and Hamilton counties. Rare. June – August.

## GRAMINEÆ. *Grasses.*

LEERSIA, *Solander.* *Cut-grass. White Grass.*

ORYZOIDES, *Swartz.* *Rice-like Leersia.*

Water-sides, low sandy shores. Common. August, September.

VIRGINICA, *Willdenow.* *Virginian Leersia.*

Marshes, moist woods. Infrequent. August.

ZIZANIA, *Gronovius.* *Indian Rice.*

AQUATICA, *L.* *Water Zizania.*

River and lake marshes. Lowlands of the Mohawk. Borders of Oneida lake, *Knieskern.* Abundant round Onondaga lake. Oswego river, *Eaton bot.* Common in all the bays, inlets, marshes on the shore of Lake Ontario, from several miles northeast of Oswego, through Sodus bay and the mouth of Genesee river, to Braddock's bay, Monroe county.
Frequent. August, September.

ALOPECURUS, *L.* *Foxtail Grass.*

*GENICULATUS*, L. *Floating, Jointed Alopecurus.*

Wet meadows. Between Albany and Kenwood, *G. H. Peck.* Oriskany creek, in pools above the factories Pleasant-valley, *Vasey.* Penn-Yan, Yates county, *Sartwell.* Rare. July.

ARISTULATUS, *Michaux.* *Short-bearded Alopecurus.*

Flats of streams. Littlefalls, below the town. Borders of Canaderaga lake outlet, Otsego county. Along Wood creek near Fort Bull, Rome, *Knieskern.* Common in the valley of the Unadilla, *Gray;* western part of the State, *Gram. & Cyp.* Shore of Lake Ontario on Sodus point, Wayne county. Penn-Yan, Yates county, *Sartwell.* Infrequent. June.

PHLEUM, *L.* *Timothy. Herd's-grass.*

*PRATENSE*, L. *Meadow Phleum.*

Waysides, borders of fields, grass lands. Common. June.

VILFA, *Adanson.* *Rush Grass.*

VAGINÆFLORA, *Torrey.* *Sheath-flowering Vilfa.*

Barren banks. Watertown, Jefferson county, *Gray in Rare plants of Northern N. York.* Abundant along the sandy shore of Sodus bay, inside the point, Wayne county. Penn-Yan, Yates county, *Sartwell.* Rare. September.

SPOROBOLUS, *R. Brown.* *Drop-seed Grass.*

HETEROLEPIS, *Gray.* *Unequal-glumed Sporobolus.*

Dry soil of cliffs.

Foliis setaceis; panicula pyramidata, sparsiflora; gluma inferiore subuliformi, superiore ovata, cuspidata, subduplo breviori; valvulis periantho subæqualibus, muticis, gluma extima paulo minori.

Root perennial. Culm 1 – 2 feet in height, smooth. Leaves convolute-

setaceous, with the margins hispidly scabrous upward; the lower ones equalling the culm; the upper ones much shorter. Lower sheaths pilose; upper ones smooth. Panicle pyramidal, spreading or subcontracted; branches solitary, nearly simple, few and loosely flowered. Glumes purplish; the outer one reduced to a subula, about one-half the length of the inner one, which is strikingly membranaceous in texture, ovate or ovate-oblong, one-nerved, with the nerve produced into a short cusp. Valves of the perianth oblong-lanceolate, rather obtuse, thin and membranaceous, a little shorter than the superior glume. Inferior valve obscurely one-nerved, slightly apiculate. Superior valve two-nerved, a little shorter than the outer one. Stamens 3. Anthers large, linear, orange-red. Stigmas 2, hairy. Styles very short. Caryopsis subglobose, coriaceous, smooth and shining.

HAB. On rocks, Watertown, Jefferson county, *Dr. Crawe*: GRAY *in Rare plants of Northern N.Y.* Rare. August, September.

CRYPTANDRUS, *Gray.* *Hidden-flowered Sporobolus.*

Panicle pyramidal, the base usually inclosed in the upper sheath, with spreading mostly alternate branches, which are hairy in the axils; spikelets racemose; flowers awnless; lower glume very short; the upper one as long as the nearly equal lanceolate acute paleæ; sheaths bearded at the throat : *Torrey Ann. Lyc. N.Y. Fl. N.Y.*

Sandy wastes. Shores of Onondaga lake, along the west side. Abundant on the beaches of Lake Ontario, from Sodus point, Wayne ocunty, to Braddock's bay, Monroe county. Rare. August – October.

SEROTINUS, *Gray.* *Late-flowering Sporobolus.*

Moist banks. Shady water-sides at the head of Sodus bay, Wayne county. Rare. September.

AGROSTIS, *L.* *Bent-grass.*

PERENNANS, *Tuckerman.* *Perennial Agrostis.*

Damp shady woodlands. Half-open places in all deep arbor-vitæ swamps. On the flats of the Mohawk, and the hills of the southern part of this county and south Herkimer county. Near Bridgewater, *Gray.* Frequent in the north woods. Penn-Yan, Yates county, *Sartwell in herb. Ham. Coll.* Scarce. August.

SCABRA, *Willdenow.* *Hair-grass. Rough-panicled Agrostis.*

Old fields, rocky woods, barren hillsides, dried swamps. Common at Littlefalls, and on the south range of hills. Woods of north Herkimer county. Abundant.

var. MONTANA, *Tuckerman.* *Mountain-side Agrostis.*

Exposed rocks. Bald rock, north of Third lake, in short tufts or turfs in the hollows of the surface : leaves very short, setaceous. Rare. August.

VULGARIS, *Withering.* *Common Agrostis.*

Meadows, fields, banks. Native near Oneida lake, *Gray in herb. Sartwell Ham. Coll.* Shore of Lake Ontario, at Sackett's-harbor, *Gray.* Frequent along the south side of the Lake, on sandbanks and ridges. Everywhere naturalized. August.

*ALBA*, L. *White-panicled Agrostis.*

Low grass-lands, swamps. Abundant. July.

var. *ARISTATA*, Gray. *Awned Agrostis.*

Sandy fields, near Oneida lake, *Knieskern.* Sandy field near the outlet of Oneida lake, *Torrey Fl. N.Y.* Uncommon. June.

CINNA, *L.*

ARUNDINACEA, *L.* *Reed-like Cinna.*

Inundated shady banks of streams, lakes. Along the Mohawk and its head streams. Outlets of lakes in the western parts of the State.
Sometimes in swamps. Abundant in the marshes on the west side of Onondaga lake. August, September.

var. PENDULA, *Gray.* *Drooping-flowered Cinna.*

Cold damp woods. Frequent in the high woodlands on the hills south of the Mohawk valley, from Summit lake, Otsego county, to Hidden lake, south Herkimer county. Oriskany swamp, formerly, *Vasey*. Trenton falls, *Gray*. Alexandria bay, St.Lawrence county, *G. W. Clinton*. Rare. August.

MUHLENBERGIA, *Schreber.* *Dropseed-grass. Muhlenbergias.*

SOBOLIFERA, *Gray.* *Shoot-bearing-rooted Muhlenbergia.*

Hilly woods. Penn-Yan, Yates county, *Sartwell in herb. Ham. Coll.*
Scarce. August, September.

GLOMERATA, *Trinius.* *Clustered-spiked Muhlenbergia.*

Swamps. Abundant in all the upland marshes from Summit lake, Otsego county, to Hidden lake, Litchfield, south Herkimer county. Bridgewater region, *Gray*. Sandy plains, Oneida county, *Knieskern*. Frequent. August.

MEXICANA, *Trinius.* *Mexican Muhlenbergia.*

Low banks of streams, meadows, fields, hedges. Common. August.

SYLVATICA, *Torrey & Gray.* *Woodland Muhlenbergia.*

Borders of woods, open swamps. Abundant. August.

WILLDENOVII, *Trinius.* *Determined by* WILLDENOW.

Rocks and hillsides. Shady banks below the cliffs at Bignose point on the Mohawk, Montgomery county. Along the stony sides of cliffs and brows of precipices at Littlefalls, Herkimer county. Sheldrake point, Cayuga lake, *Gray*. Yates county, *Sartwell*. Frequent. August.

DIFFUSA, *Schreber.* *Dropseed. Spreading Muhlenbergia.*

Dry woods and fields. Sandy plains between Albany and Schenectady. Open rocky steeps at Spraker's, Montgomery county. Dry cliffs of Fish creek. Yates county, *Sartwell*. Infrequent. August, September.

BRACHYELYTRUM, *Beauvois.*

ARISTATUM, *Beauv.* *Awned Brachyelytrum.*

Ravine-sides, rocky woods and hills Frequent. June, July.

CALAMAGROSTIS, *Adanson.* *Blue-joint.*

CANADENSIS, *Beauvois.* *Canadian Calamagrostis.*

Marshes. Abundant on the hills south of the Mohawk valley. The grass of the beaver meadows of the north woods. Common. July, August.

CONFINIS, *Nuttall.* *Close-flowered Calamagrostis.*

Swamps. In abundance near Penn-Yan, Yates county, *Sartwell*.
From the lowest sheaths of primary leaves of the usual width arise clusters of remarkablylong filiform involute leaves, two feet in length, reaching nearly to the panicle. Rare. July, August.

ARENARIA, *Roth.* *Sand-reed Calamagrostis.*

Barren beaches. Abundant on the shore of Lake Ontario, over the long bars against Round pond, Long pond, Cranberry pond and Braddock's bay, Monroe county; covering the ridges of clear sand, with *Cyperus schweinitzii*.
Local. July – September

ORYZOPSIS, *Michaux.* *Mountain Rice.*

MELANOCARPA, *Muhlenberg.* *Black-fruited Oryzopsis.*

Gulf-sides, rocky banks. In copses along the steep sidehills above Bignose point on the Mohawk, and among shaded talus of the cliffs themselves, Montgomery county. Rocky woods at Littlefalls, Herkimer county. Around Oneida lake, *Gray.* Ravine of Chittenango creek. Frequent. August.

ASPERIFOLIA, *Michaux.* *Rough-leaved Oryzopsis.*

Shady sandy sidehills. Abundant. May.

CANADENSIS, *Torrey.* *Canadian Oryzopsis.*

Sandy barrens. Pine plains of Rome, *Knieskern.* Near Oneida lake. New-York, *Gray Gram. & Cyp.* Yates county, *Sartwell.* Rare. May, June.

ARISTIDIA, *L.* *Poverty-grass. Three-awned-grass.*

DICHOTOMA, *Michaux.* *Base-branching Aristidia.*

Sandy plains, dry hillsides. Barren fields in Rotterdam, Schenectady county, *E. W. Paige.* On the pine plains of Rome probably. Infrequent. July.

SPARTINA, *Schreber.* *Marsh Grass.*

CYNOSUROIDES, *Willdenow.* *Cynosurus-like Spartina.*

Lake marshes. Watertown, Jefferson county, on the rocky banks of Black river; Oneida lake; *Gray.* Onondaga lake, all round. Cayuga marshes. Canandaigua lake, *Sartwell in herb. Ham. Coll.* Scarce. August – October.

STRICTA, *Roth.* *Salt-marsh Grass.*

var. ALTERNIFLORA, *Gray.* *Alternate-flowering Spartina.*

Banks and marshes of Onondaga lake, chiefly along the west side. Rare. August, September.

ELEUSINE, *Gærtner.* *Yard-grass.*

*INDICA*, Gært. *Indian Eleusine.*

Around dwellings. Waterloo, Seneca county, *Sartwell.* July – September.

LEPTOCHLOA, *Beauvois.*

FASCICULARIS, *Gray.* *Clustered-flowered Leptochloa.*

Abundant at Salina, and on the springy slopes southeastward along the banks of Onondaga lake: short and spreading over wet shores, but erect and tall in grassy marshes. Rare. August – October.

DACTYLIS, *L.* *Orchard Grass.*

*GLOMERATA*, L. *Clustered-fruited Dactylis.*

Fields, in shade. Frequent. June.

EATONIA, *Rafinesque.*

OBTUSATA, *Gray.* *Obtuse-glumed Eatonia.*

Damp places in woods and fields, Oneida county, *Knieskern.* Western part of the State, *Gram. & Cyp.:* Seneca lake, *Gray.* Yates county, *Sartwell in herb. Ham. Coll.*

A small form is occasional in deep shady swamps. Scarce. June, July.

PENNSYLVANICA, *Gray.* *Pennsylvanian Eatonia.*

Moist banks. Borders of marshes on the shore of Lake Ontario. Occasionally. July – September.

var. MAJOR, *Torrey.* *Greater Pennsylvanian Eatonia.*

Wet woods and borders of swamps. Frequent. June, July.

GLYCERIA, *R. Brown.* — *Manna Grass.*

CANADENSIS, *Trinius.* — *Canadian Glyceria.*

Swamps. Near Oriskany, *Knieskern.* High bogs of Bridgewater; and Brookfield, Madison county, *Gray.* Western part of the State, *Gram. & Cyp.* Junius, Seneca county, *Sartwell in herb. Ham. Coll.* Infrequent. July, August.

ELONGATA, *Trinius.* — *Long-panicled Glyceria.*

Borders of woods and swamps. Throughout the valley of the Mohawk. Common in the southern part of the county, *Gray.* Western part of the State, *Gram. & Cyp.* Frequent. June, July.

NERVATA, *Trinius.* — *Nerved-flowered Glyceria.*

Wet meadows, rivulet-sides, swamps. Common. June.

PALLIDA, *Trinius.* — *Pale-flowered Glyceria.*

Water-margins, wet banks. Borders of Canaderaga lake outlet, Richfield and Exeter, Otsego county. Wood creek, near New-London, *Knieskern.* Abundant on the shore of Oneida lake, *Torrey Fl. N.Y.* Western part of the State of New-York, *Gray Gram. & Cyp.* Gorham, Seneca county, *Sartwell in herb. Ham. Coll.* Infrequent. July, August.

AQUATICA, *Smith.* — *Water Glyceria.*

Low meadows. Abundant. July, August.

FLUITANS, *R. Brown.* — *Floating Glyceria.*

Borders of ponds, streams. Infrequent. June – August.

ACUTIFLORA, *Torrey.* — *Sharp-flowered Glyceria.*

Wet woods and shores. Ithaca, Tompkins county, *Sartwell in herb. Ham. Coll.* Rare. June, July.

POA, *L.* — *Meadow Grass.*

*ANNUA*, L. — *Annual Poa.*

Fields, waysides. Common. May – September.

BREVIFOLIA, *Muhlenberg.* — *Short-leaved Poa.*

Moist rocky places. Western part of the State, *Sartwell, Torrey Fl. N.Y.* Penn-Yan, Yates county, *Sartwell.* Rare. April, May.

ALSODES, *Gray.* — *Woodland Poa.*

Shady hillsides. Around Bald rock, north Herkimer county, and abundant on damp shaded banks of springs throughout the north woods. Utica, *Gray Gram. & Cyp.* Bridgewater, *Gray.* Moist rocky banks of Fish creek, and on wooded talus between the cliffs and the stream. Penn-Yan, Yates county, *Sartwell.* Infrequent. June.

DEBILIS, *Torrey.* — *Weak-stemmed Poa.*

Rocky banks. Watertown, Jefferson county, *Knieskern:* Penn-Yan, Yates county, *Sartwell, in herb. Ham. Coll.* Rare. May, June.

SEROTINA, *Ehrhart.* — *Late-flowering Poa.*

Wet meadows. Common. July, August.

*TRIVIALIS*, L. — *Roadside Poa.*

Low grass-lands. Occasionally in abundance. July.

*PRATENSIS*, L. — *Meadow Poa.*

Shady fields and flats of ravines. Common. May – July.

COMPRESSA, *L.* — *Flat-stemmed Poa.*

Dry banks. Sometimes on elevations in deep cedar swamps. Common, June – August.

ERAGROSTIS, *Beauvois.*

REPTANS, *Nees von Esenbeck.* *Creeping Eragrostis.*

Banks of streams, lakes. Wood and Oneida creeks, *Knieskern.* Abundant over low sandy shores all along the head of Oneida lake. Cayuga lake, *Gray.* Potter, Yates county, *Sartwell.* Penfield, *L. Holzer;* Greece, Monroe county, *Bradley.* Frequent on the beaches of Lake Ontario, from Sodus point, Wayne county, to Braddock's bay, Monroe county. Scarce. July, August.

*POÆOIDES,* Beauvois. *Poa-like Eragrostis.*

Sandy or gravelly places, Oriskany, *Knieskern.* Penn-Yan, Yates county, *Sartwell.* Rare. July, August.

var. *MEGASTACHYA,* Gray. *Large-spiked Eragrostis.*

Sandy fields, banks. Ithaca, Tompkins county, *Gray.* Western part of the State, *Gram. & Cyp.* Scarce. August, September.

CAPILLARIS, *Nees.* *Capillary-panicled Eragrostis.*

Hillsides, dry banks. Western part of the State, *Gray Gram. & Cyp.* Sterile fields along Clyde river, Wayne county. Bluff point, Crooked lake, *Sartwell.* Frequent. August.

FESTUCA, *L.* *Fescue-grass.*

TENELLA, *Willdenow.* *Slender Festuca.*

Barren soils. Penn-Yan, Yates county, *Sartwell.* Monroe county, *C. M. Booth.* Uncommon. July.

*OVINA,* Gray. *Sheep Festuca.*

var. *DURIUSCULA,* Gray. *Hard Festuca.*

Dry banks. Dexter, Jefferson county, *Vasey.* Sandy fields near Irondequoit bay, *C. M. Booth.* Rare. June, July.

*ELATIOR,* L. *Tall Festuca.*

Borders of fields, low river-banks. Common. June, July.

NUTANS, *Willdenow.* *Nodding Festuca.*

Borders of woods. Abundant at Littlefalls, in shady rocky hillsides. Utica, *Gray Gram. & Cyp.* On the hills south of the Mohawk valley. Frequent.

A depauperate form, bearing a slender instead of a branching panicle, occurs in cold cedar swamps. July.

BROMUS, *L.*

*SECALINUS,* L. *Rye Bromus.*

Cultivated grounds, borders of fields. Common. July.

*RACEMOSUS,* L. *Raceme-panicled Bromus.*

Roadsides, between New-Hartford and Paris hill. Uncommon. July.

KALMII, *Gray.* KALM'S *Bromus.*

Banks of the Mohawk and Fish creek, *Knieskern.* Utica, *Gray.* Along the Black river at Dexter, Jefferson county, *Vasey.* Shores of the lake, Seneca county, *Gray.* Infrequent. June, July.

CILIATUS, *L.* *Fringed-flowered Bromus.*

Stream-sides, rocky banks. Ravine of Ilion creek. Trenton falls. Sometimes in shady swamps. Frequent. July, August.

*STERILIS,* L. *Barren Bromus.*

Penn-Yan, Yates county, *Sartwell in herb. Ham. Coll.* Rare. July.

PHRAGMITES, *Trinius.* *Reed.*

COMMUNIS, *Trin.* *Common Phragmites.*

Swamps, lake marshes. On the pine plains of Schenectady, *Pearson.* Summit lake, Otsego county. Oriskany, *Knieskern.* Common throughout the Cayuga marshes. Western part of the State, *Gram. & Cyp.:* head of Senea lake, *Gray.* Foot of Crooked lake, *Sartwell.* In all bays and marshes along the shore of Lake Ontario. Abundant in the swamp of WestBergen, Genesee county. Frequent. August, September.

LOLIUM, *L.* *Darnel.*

*PERENNE*, L *Perennial Lolium.*

Meadows, pastures. Borders of fields on the flats of the Mohawk. Geneva, *Sartwell in herb. Ham. Coll.* Uncommon. June.

*TEMULENTUM*, L. *Injurious-fruited Lolium.*

Among the rocks at Littlefalls, Herkimer county. Infrequent. July.

TRITICUM, *L.* *Wheat-grass.*

*VULGARE*, Villars. *Common Wheat.*

Banks of the Mohawk. Embankments of the Central railroad. Escapes frequently. July.

*REPENS*, L. *Creeping Triticum.*

Rich meadows, fields, barren and waste places. Common.

var. NEMORALE, *Anderson.* *Woodland Triticum.*

Thickets. On the verge of high cliffs along the Mohawk east of Spraker's, Montgomery county. Shaded upright steeps of Fall hill, Littlefalls, Herkimer county. Apparently native. Scarce. June – August.

CANINUM, *L.* *Bearded Triticum.*

Rocky banks. Littlefalls, Herkimer county. Watertown, Jefferson county. Fields. Penn-Yan, Yates county, *Sartwell in herb. Ham. Coll.* Swamps. Sparingly at West-Bergen, Genesee county. Infrequent. July.

HORDEUM, *L.* *Barley.*

*VULGARE*, L. *Many-rowed, Common Barley.*

Borders of fields, railroad banks. Frequent. July.

SECALE, *L.* *Rye.*

*CEREALE*, L. *Cereal Secale.*

Remains in old cultivated fields, Often. June, July.

ELYMUS, *L.* *Wild Rye.*

VIRGINICUS, *L.* *Virginian Elymus.*

Low flats of the Mohawk. Lake marshes. Frequent. July, August.

CANADENSIS, *L.* *Canadian Elymus.*

River-sides. Swamps on the hills south of the Mohawk valley. Abundant.

var. GLAUCIFOLIUS, *Gray.* *Pale-leaved Elymus.*

Shores. Borders of Seneca lake, *Gray.* Yates county, *Sartwell.* July, August.

STRIATUS, *Willdenow.* *Striate-stemmed Elymus.*

Dry gravelly banks of streams. Oneida county, *Knieskern.*

var. VILLOSUS, *Gray.* *Villose-flowered Elymus.*

Rocky hillsides. Bridgewater, *Gray.* Western part of the State, *Gram. & Cyp.* Penn-Yan, Yates county, *Sartwell.* Scarce. July

GYMNOSTICHUM, *Schreber.* *Bottle-brush Grass.*

HYSTRIX, *Schreb.* *Porcupine Gymnostichum.*

Shady rocks and banks. Abundant in low grounds on the hills near Page's corners, south Herkimer county. Littlefalls; and along the Mohawk. Deep ravine-sides, frequent. July, August.

AIRA, *L.* *Hair-grass.*

FLEXUOSA, *L.* *Bending Aira.*

Rocks and dry sandy plains. Littlefalls, Herkimer county. Rome, *Knieskern.* Dexter, Jefferson county, *Vasey.* Western part of the State, *Gray Gram. & Cyp.* Outlet of Crooked lake, abundant, *Sartwell.* Frequent. June.

CÆSPITOSA, *L.* *Tufted Aira.*

Rocky river-banks, lake shores. Pine plains between Albany and Schenectady. Watertown, Jefferson county, *Gray Gram. & Cyp.* Dexter, *Vasey.* West-Canada creek, Fairfield, Herkimer county; on the banks of the Mohawk below Utica; *Gray.* Crooked lake outlet, in a few localities, *Sartwell.* Along the shore of Lake Ontario. Abundant in the dry marl along the southern border of the West-Bergen swamp, Genesee county. Rare. July.

DANTHONIA, *DC.* *Wild Oat-grass.*

SPICATA, *Beauvois.* *Spicate Danthonia.*

Sany plains, dry hillsides, pine and hemlock woods. Frequent. July.

TRISETUM, *Persoon.*

SUBSPICATUM, *Beauvois.*

var. MOLLE, *Gray.* *Downy Trisetum.*

Sandy shores of the lakes, rocky river-sides. Borders of Irondequoit bay, of Lake Ontario, Monroe county, *L. Holzer: C. M. Booth.* Lake shore, Jefferson county, *Crawe: Gray.* Littlefalls, Herkimer county, *Gray Gram. & Cyp.*

The station of both this and the following species was on the rocky banks of islands in the river, above the town. They could not have been native here: they belong northward and west, and must have come down the Mohawk and had the Great Lakes for their source. Many similar indications of the flora our valley confirm the testimony of the rocks, that in some remote geological period it has been an outlet of the Lakes, or a channel of retreating waters. Rare. July.

PALUSTRE, *Torrey.* *Marsh Trisetum.*

Shores and low meadows. Little falls of the Mohawk, *Gray.* Ithaca, Tompkins county, *Sartwell in herb. Ham. Coll.* Rare. June.

AVENA, *L.* *Oat.*

STRIATA, *Michaux.* *Striate-sheathed Avena.*

Shady rocks, ravine-sides, banks of streams. Chiefly among the hills, both north and south of the Mohawk. Littlefalls. Near Wood creek, *Knieskern.* Gulf of Chittenango creek. Frequent. July.

*SATIVA*, L. *Common Oat. Sown Avena.*

Railroads, field-borders, wood roads. Self-sown often. June, July.

HOLCUS, *L.* *Velvet-grass.*

*LANATUS*, L. *Downy Holcus.*

Moist banks. Occasional and transient. June.

ANTHOXANTHUM, *L.* *Vernal-grass.*

*ODORATUM*, L. *Fragrant Anthoxanthum.*

Roadsides, damp pastures. Common. May – August.

PHALARIS, *L.* *Canary-grass.*

ARUNDINACEA, *L.* *Reed-like Phalaris.*

Banks of streams, rivers, lakes. Frequent. July.

MILIUM, *L.* *Millet-grass.*

EFFUSUM, *L.* *Scattered Milium.*

Borders of swamps, banks of streams. Utica; Bridgewater; *Gray.* Oriskany, *Knieskern.* Potter, Yates county, *Sartwell in herb. Ham. Coll.* June.

PANICUM, *L.* *Panic-grass.*

FILIFORME, *L.* *Filiform Panicum.*

Sandy shore of Lake Ontario, from Sodus point to Braddock's bay. Rare. August, September.

*GLABRUM*, Gaudin. *Glabrous Panicum.*

Barren sandy fields and banks. Common in uncultivated fields on sandy hills east of Black river. Lewis county. Banks of the Erie canal, *Knieskern.* Shores of Oneida lake. Damp bluffs along Lake Ontario. Frequent. August, September.

*SANGUINALE*, L. *Finger-grass. Blood-stained Panicum.*

Waste grounds, roadsides, streets. Common. August – October.

PROLIFERUM, *Lamarck.* *Proliferous Panicum.*

Lake marshes. Borders of Oneida lake, *Knieskern.* Salina, Onondaga county, *G. W. Clinton.* Infrequent. August, September.

CAPILLARE, *L.* *Capillary-panicled Panicum.*

Cultivated fields, sandy copses. Common.

A depauperate form, one to three inches high, not branched at base but standing upright, bearing short narrow leaves and a close few-flowered panicle, grows in exsiccated swamps.

An intermediate form occurs on low shores. August.

VIRGATUM, *L.* *Virgate-panicled Panicum.*

Sandy shores. On an island in Oneida lake, *Knieskern in herb. Sartwell Ham. Coll.* Borders of Cayuga marshes, Seneca county. Banks of Clyde river, Ontario county. Rare. August.

LATIFOLIUM, *L.* *Broad-leaved Panicum.*

Moist woods, hillsides, banks of streams. Common. June – August.

CLANDESTINUM, *L.* *Clandstine-flowering Panicum.*

Damp thickets, shady ravine-bottoms. Frequent.

var. PEDUNCULATUM, *Gray.* *Pedunculate Panicum.*

Under the cliffs at Littlefalls, Herkimer county. Penn-Yan, Yates county, *Sartwell in herb. Ham. Coll.* July, August.

XANTHOPHYSUM, *Gray.* *Yellow-natured Panicum.*

Culmo (simplici aut basi ramoso) panicula foliisque glabris; vaginis villosis, foliis lato-lanceolatis valde nervosis acutissimis, basi ciliatis; panicula simpliciuscula pauciflora, ramis erectis vel adpressis; spiculis globoso-obovatis pubescentibus; gluma inferiore flosculis subduplo breviore, superiore eosdem æquante 9-nervi; flore masculo bivalvi hermaphroditum glabrum obovatum subæquante: GRAY *Gram. & Cyp.*

Whole plant light green, becoming yellowish in drying. Root perennial. Culm simple or branching from the base, 12 – 15 inches high, glabrous. Leaves broad-lanceolate, 3 – 6 inches in length, 4 – 6 lines broad, acute, strongly nerved, ciliate at the base. Sheaths villose, shorter than the joints.

Peduncles elongated when old. Panicle sub-simple, few-flowered, with the branches appressed, nearly smooth; spikelets globose-obovate, as large as in *P. latifolium*. Glumes pubescent; the inferior one oblong, acutish, 3-nerved, about half the length of the 9-nerved superior one. Abortive floret staminiferous, 2-valved; inferior valve equalling the superior glume; superior valve shorter, membranaceous. Perfect floret cartilaginous, rather obtuse, smooth and shining, equalling the superior glume: GRAY *in Rare plants of Northern N. Y.*

Pine barrens, along Wood creek near Oneida lake, *Gray*. Hamilton, Madison county, *J. S. Douglass: Gray in Rare plants of Northern N. Y.* Rare. June.

DICHOTOMUM, *L.* — *Forking-panicled Panicum.*

Dry borders of woods, sandy plains, barren thicket-land. Common.

Many forms, smooth, shining, pubescent; one only two or three inches high, but full of fruit, on cold banks among lichens, in the north woods. June – September.

DEPAUPERATUM, *Muhlenberg.* — *Few-flowered Panicum.*

Shaded rocks and barren woodlands at Littlefalls, a large form. Sand-plains of Rome, *Knieskern*. Dry barren soil, western part of the State, *Gray Gram. & Cyp.* Penn-Yan, Yates county, *Sartwell in herb. Ham. Coll.* June.

*CRUS-GALLI*, L. — *Cock's-foot Panicum.*

Shores, marshes, ditches, waste places. Common. August – October.

SETARIA, *Beauvois.* — *Foxtail. Bottle-grass.*

*GLAUCA*, Beauv. — *Glaucous Setaria.*

Waste-grounds, yards. Common. August.

*VIRIDIS*. Beauv. — *Green Setaria.*

A weed in cultivated fields. Common. July.

CENCHRUS, *L.* — *Bur-grass. Job's Comforters.*

TRIBULOIDES, *L.* — *Tribulus-like Cenchrus.*

Dry sandy soils. Along the Central railroad, and in cultivated fields between Albany and Schenectady. Also in barren wastes of clear sand on the Pine plains, in advance of even *Cyperus filiculmis*. Rare. August, September.

ANDROPOGON, *L.* — *Beard-grass*

FURCATUS, *Muhlenberg.* — *Forked Andropogon.*

Pine barrens. Between Albany and Schenectady. Pine plains, Rome, *Knieskern*. Shore of Lake Ontario. Frequent. September.

SCOPARIUS, *Michaux.* — *Broom-like Andropogon.*

Sterile ground, old fields. Common between Albany and Schenectady; west to Littlefalls. Steep ridge-sides of Irondequoit bay, Monroe county. Abundant. August, September.

VIRGINICUS, *L.* — *Virginian Andropogon.*

Barren banks, drained swamps. Yates county, *Sartwell in herb. Ham. Coll!* Rare. September.

SORGHUM, *Persoon.* — *Wood-grass. Indian-grass.*

NUTANS, *Gray.* — *Drooping-fruited Sorghum.*

Dry banks of the Mohawk valley, from Schenectady to Herkimer county. Sandy plains of Rome. *Knieskern*. Seneca lake, *Gray*. Penn-Yan, Yates county. *Sartwell in herb. Ham. Coll.* Shore of Lake Ontario, from Sodus bay to Braddock's bay, Monroe county. Frequent. August, September.

## CRYPTOGAMIA. *Flowerless Plants.*

### III. ACROGENS. *Top-growers.*

#### EQUISETACEÆ. *Horsetails.*

EQUISETUM, *L.* *Equiseta.*

ARVENSE, *L.* *Field Equisetum.*

River and ravine-sides, low grounds along streams, embankments of railroads, sometimes in meadows. Common. April.

SYLVATICUM, *L.* *Woodland Equisetum.*

Shady banks, wet woods, arbor-vitæ swamps. Abundant. May.

LIMOSUM, *L.* *Mud Equisetum.*

Low river-banks, miry marshes. Throughout the valley of the Mohawk. Occasionally in swamps on the hills. Frequent. June.

HYEMALE, *L.* *Winter-lasting Equisetum.*

Springy sidehills. Common. May.

VARIEGATUM, *Schleicher.* *Variegated-sheathed Equisetum.*

Sandy shores. Steep banks of the Oriskany creek above the Dexter factories, near the base of the slope, in shade. On an island in Owasco lake, Cayuga county, *I. H. Hall.* All along the shore of Lake Ontario, from Sodus point, Wayne county, to Braddock's bay, Monroe county. Rare. April, May.

SCIRPOIDES, *Michaux.* *Scirpus-like Equisetum.*

Wet banks and cedar swamps. College-hill, Clinton. Near the Chenango canal, three miles southwest of Utica. On the flats of the Mohawk, in the deep swamp between Utica and Frankfort. Fairfield, Herkimer county; also common in many places in Bridgewater, *Gray.* Scarce. April.

#### FILICES. *Ferns.*

POLYPODIUM, *L.* *Polypods.*

VULGARE, *L.* *Common Polypodium.*

Rocks, ravine-sides, swamps. Frequent. August – October.

PHEGOPTERIS, *L.* *Beech Fern. Wood Polypodium.*

Shady ravines, stream-bottoms, moist woods. Abundant. June, July.

HEXAGONOPTERUM, *Michaux.* *Six-angled-winged Polypodium.*

Moist woodlands. Herkimer. *Gray.* Between New-Hartford and Paris hill. Auburn, Cayuga county, *I. H. Hall.* Lodi, Seneca county, *Gray.* Gorham, Ontario county, *Sartwell in herb. Ham. Coll.* Abundant in the valley of Genesee river. Scarce. July, August.

DRYOPTERIS, *L.* *Tree-like Polypodium.*

Moist banks along streams. Common in cedar swamps.
Abundant, June, July.

STRUTHIOPTERIS, *Willdenow.* *Ostrich-fern.*

GERMANICA, *Willd.* *German Struthiopteris.*

Flats of water-courses. Common throughout the vallies of the Mohawk and all its creeks and tributaries. Alluvial bottoms of Fish creek; where the sterile fronds form thickets five to seven feet high. August, September.

ALLOSORUS, *Bernhardi.* *Rock-brakes.*

GRACILIS, *Presl.* *Slender Allosorus.*

Clefts of rocks in shade and moisture. Helderberg mountains, *L. Collins.* Littlefalls, *B. D. Gilbert.* Wooded ledges between Littlefalls and Mud lake, Herkimer county. Trenton-falls. On Sugar creek near Boonville, *Gray;* and along Black river below Watertown. Cliffs of the Chittenango ravine, where it flourishes remarkably, hanging often a foot in length from its hold in the rocks. Rare. July.

ATROPURPUREUS, *Gray.* *Dark-purple-stemmed Allosorus.*

Limestone rocks. Helderberg mountains, *Pearson.* Rocky sidehills at Spraker's, Montgomery county. Dry hills along Crooked lake outlet, *Sartwell.* Ithaca, Tompkins county, falls of East creek, *Bradley.* Rare. July – October.

PTERIS, *L.* *Common Brake.*

AQUILINA, *L.* *Eagle-like-centered Pteris.*

Old sandy fields, bush-lands. Common. June – August.

ADIANTUM, *L.* *Maidenhair.*

PEDATUM, *L.* *Pedately-branching Adiantum.*

Woods, ravines. Common. July, August.

WOODWARDIA, *Smith.*

VIRGINICA, *Willdenow.* *Virginian Woodwardia.*

Borders of swamps. Round Wetmore's pond on Frankfort hill. Swamps of Rome throughout. Junius, Seneca county, *Sartwell in herb. Ham. Coll.* Scarce. June – August.

CAMPTOSORUS, *Link.* *Walking-fern.*

RHIZOPHYLLUS, *Link.* *Rooting-fronded Comptonia.*

Rocks in shade, swamps. Helderberg mountains, *Pearson.* Lofty cliffs of Bignose on the Mohawk, Montgomery county. Abundant at Littlefalls, both sides of the river: ledges on the hills southward, on the road to Warren: Herkimer county. Ravine of Chittenango creek.

In a cedar swamp west of Onondaga lake it abounds on old logs, stumps, knolls; stretching frequently eighteen or twenty inches the first time, and running on to the third and fourth generation: fronds occasionally forking. On rocks west of Otsego lake an unusual form has been gathered by *B. D. Gilbert*, having lobes springing from each side of the base of the main one, at right angles, four or five inches in length. Rare. July – November.

SCOLOPENDRIUM, *L.* *Hart's-tongue.*

OFFICINARUM, *Swartz.* *Officinal Scolopendrium.*

Ravine of Chittenango creek, Madison county, among loose rocks fallen from the cliffs, in moisture and shade.

This remains the only known locality in the United States of this fern so frequent in England and Europe. Not many plants now are to be found; and they may be disappearing. Nature, however, well guards them from all danger and even access, save from the reckless and destructive botanist.

Another station has recently been discovered on the outlet of Lake Simcoe, Canada West. There, too, as in our habitat, it occurs in a ravine below the falls of the stream, in the humid atmosphere. Local. July – October.

ASPLENIUM, *L.* — *Spleenworts.*

RUTA-MURARIA, *L.* — *Wall-rue Asplenium.*

Limestone cliffs. Helderberg mountains, *C. H. Peck.* Rocky steeps and cliffs all along between Fonda and Palatine bridge, Montgomery county, common on both sides of the Mohawk, especially from Littlenose to Spraker's, and on the cliffs of Bignose: growing remarkably large, whole clusters of fronds hanging over six inches in length and three in breadth. Abundant at Littlefalls, on the precipices of the south side of the river, both in shade and exposed seats of the rocks. Cliffs of Chittenango creek.

Rare. August – November.

TRICHOMANES, *L.* — *Maidenhair Asplenium.*

Clefts of rocks in shade. Helderberg mountains, *Pearson.* Cliffs on the east side of Otsego lake, *B. D. Gilbert.* Littlefalls, south side of the river: ledges of limestone rocks near the summit of the hills southward toward Mud lake, Warren: Herkimer county. Trenton falls. Fish creek precipices. Chittenango ravine rocks, Madison county. Scarce. July – December.

EBENEUM, *Aiton.* — *Ebony Asplenium.*

Edges of rocks. Schenectady county, *Pearson.* Littlefalls, north side of the Mohawk. Chittenango creek, west side of the ravine. Hector, Tompkins county, *Gray.* Ithaca, Tompkins county, *Sartwell in herb. Ham. Coll.* Parma, Monroe county, *Bradley.* Frequent. July – October.

ANGUSTIFOLIUM, *Michaux.* — *Narrow-fronded Asplenium.*

Rich woods and deep ravine-bottoms. Abundant. July – September.

THELYPTEROIDES, *Michx.* — *Lady-fern-like Asplenium.*

Moist woods. Abundant. August.

FILIX-FŒMINA, *R. Brown.* — *Female Fern.*

Woods. Common. July – September.

DICKSONIA, *L'Héritier.*

PUNCTILOBULA, *Hooker.* — *Dotted-lobed Dicksonia.*

Damp woodlands. Common. July.

WOODSIA, *R. Brown.* — *Woodsias.*

OBTUSA, *Torrey.* — *Obtuse-lobed Woodsia.*

Rocky woods and banks. Cliffs along the east side of Otsego lake, *B. D. Gilbert.* Ithaca, Tompkins county, *Sartwell in herb. Ham. Coll.*

Infrequent. July.

ILVENSIS, *R. Br.* — *Isle of Elba Woodsia.*

Clefts and shelves of rocks. Cliffs of Otsego lake. Abundant at Littlefalls, on the cliffs of the north side of the river. Alexandria bay, Jefferson county. Ithaca, Tompkins county, *Sartwell in herb. Ham. Coll.* Uncommon. June.

GLABELLA, *R. Br.* — *Smooth Woodsia.*

High on the cliffs at Littlefalls, south of the Mohawk, in rock soil and evergreen shade: discovered at this station more than twenty years ago, by VASEY.

The rarest of our ferns, next to *Scolopendrium*, and more inaccessible. It is scattered along the brow of the lofty cliffs of Fall hill, nearly all out of reach. In delicacy, grace, beauty, it certainly has no rival. Local. June.

CYSTOPTERIS, *Bernhardi.*

BULBIFERA, *Bernh.* — *Bulb-bearing Cystopteris.*

Ravine-sides and rocky banks. Common. July – September.

FRAGILIS, *Bernh.* — *Brittle Cystopteris.*

Clefts of wet rocks, gravelly shores of streams, stony hillsides, and sometimes in black-ash swamps. Abundant. July, August.

var. DENTATA, *Hooker.* — *Dentate-lobed Cystopteris.*

Dry rocks. Below Utica, at the summit of the valley hillside, on outcropping sandstones in crevices of the barren surface. Rare. June.

ASPIDIUM, *Swartz.* — *Shield-ferns. Aspidia.*

THELYPTERIS, *Swartz.* — *Lady-fern.*

Fences, pastures, along streams, swamps. Common. July – October.

NOVEBORACENSE, *Willdenow.* — *New-York Fern.*

Marshes and shady moist woods. Abundant. July – September.

DILATATUM, *Willd.* — *Broad Aspidium.*

Deep woods and borders of high swamps. Also formerly gathered in Yates county by *Sartwell.* Infrequent. August.

SPINULOSUM, *Swartz.* — *Spinulose Aspidium.*

Ravines and woods. Common. August – November.

BOOTTII, *Tuckerman.* — *Discovered by* WILLIAM BOOTT.

Rather large, outline oblong, stipe chaffy; frond smooth; somewhat 3-pinnate; pinnules oblong-ovate, acutish, pinnatifid; segments sharply toothed, teeth mucronate; sori rather small, distinct, somewhat reniform: TUCKERMAN *in Hovey Mag.*

Rich low woods on the Mohawk river-bottoms, a narrow form and one which is quite scarce. A shorter state of the same form has been gathered on the borders of swamps on the hills of Delaware county, by *B. D. Gilbert.*

A form only a little larger than specimens from the original locality of this species is abundant in all deep rich woodlands. Frequent. August, Sept.

CRISTATUM, *Swartz.* — *Shield, Crested Aspidium.*

A long narrow form, the old *A. lancastriense*, is rare in arbor-vitæ bogs in the valley of the Mohawk. Around marshes in Delaware county, *B. D. Gilbert.*

The broad-fronded plant is common in upland swamps. Borders of the open marsh-land north of Summit lake, Otsego county. Cedar swamp east of Mud lake; on the marshes of Jordanville, Warren; around Hidden lake, Litchfield; and in open bogs on Frankfort hill, near Wetmore's bear-pond; Herkimer county. Frequent in the cold marshes east of Fish creek, and near Point of Rock lake, and throughout the northern part of the county. Scarce. July, August.

var. MAJUS, *Eaton, ined.* — *Greater Crested Aspidium.*

Low rich woods: common on the flats of the Mohawk; and occasionally of the streams and creeks emptying into it. Frequent. August – October.

GOLDIEANUM, *Hooker.* — *Discovered by* GOLDIE.

Deep rich ravine-bottoms. Frequent. July, August.

MARGINALE, *Swartz.* — *Marginal-fruited Aspidium.*

Gulf-sides, rocks. Common. July – September.

ACROSTICHOIDES, *Swartz.* — *Acrostichum-like Aspidium.*

Wooded banks. Common.

var. INCISUM, *Gray.* — *Incised-lobed Aspidium.*

Shady swamps and stream-sides. Frequent.

Fronds of this variety, having all the pinnæ fruitful, have been gathered along ravines two miles southeast of Utica; and on the sides of a gulf on College hill southwest of Clinton. Rare. July – November.

ONOCLEA, *L.* — *Sensitive Fern.*

SENSIBILIS, *L.* — *Frost-sensitive Onoclea.*

Wet woods and swamps. Common. July.

var. OBTUSILOBATA, *Torrey.* — *Rounded-lobed Onoclea.*

Marshy woodlands east of Onondaga lake.

*In herb. Sartwell Ham. Coll.* is a fine specimen of this variety in full fruit, from Salem, Washington county, *J. Smith.* Also two other specimens from Penn-Yan, Yates county, *Sartwell*, of the same form, but without fruit. Many fronds of the same form with these, and corresponding exactly with each of the figures in TORREY'S *Fl. N.Y.*, having free veins and sometimes indusia, have been gathered in the swamps and woods near Salina.

The abnormal form having both sterile and fertile pinnæ on the same frond, often one side all sterile and the other all fertile, in the regular form, are not rare. July, August.

OSMUNDA, *L.* — *Flowering Ferns.*

REGALIS, *L.* — *Royal Osmunda.*

var. SPECTABILIS, *Gray.* — *Showy Osmunda.*

Wet meadows and swamps. Common. June.

CLAYTONIANA, *L.* — *Collected by* CLAYTON.

Low grounds and damp woods. Frequent. June.

CINNAMOMEA, *L.* — *Cinnamon-colored Osmunda.*

Swamps. Common.

var. FRONDOSA, *Gray.* — *Double-fronded Cinnamon-fern.*

Occasional in wet woods around Utica. Abundant on low sandy clearings west of Fort Bull, Rome. Frequent. May.

BOTRYCHIUM, *Swartz.* — *Moonworts Botrychia.*

LUNARIOIDES, *Swartz.* — *Lunaria-like Botrychium.*

Sandy pastures and banks. Common.

Among bushes, the fertile frond of this fern sometimes rises to the height of sixteen inches, with sterile frond nine inches high and six broad.

Plants of the ordinary size occasionally are found with two, and rarely with three perfect fertile fronds, all of the same size, springing together from the stipe of the sterile frond near the root.

var. DISSECTUM, *Gray.* — *Cut-lobed Botrychium.*

Grassy banks of a stream in a pasture near Fall brook, three miles north of Taberg. Rare. August – October.

VIRGINICUM, *Swartz.* — *Virginian Botrychium.*

Moist woods. Common. June, July.

LANCEOLATUM, *Angström.* — *Narrow-lobed Botrychium.*

Roots many, thick and chordlike, dark brown. Stem enlarged at the base just above the roots, tapering upward into a stout erect stipe, bearing the fronds at its summit. Sterile frond either many times divided to the midrib into lanceolate lobes with its lobes incised, about an inch in width and length, triangular in outline, or in the largest specimens consisting of three branches springing together from the stipe or the lateral from the very base of the middle one, spreading an inch and a half, all parted widely into narrow lobes more or less cut upwardly. Fertile frond always similar to the sterile; terminating the stipe, or in the largest plants the stem forking into three branches, all about an inch long and parted into many fruit-lobes.

Sandy mounds in clearings and fields. In a pasture three miles north of Taberg. Rare. June.

SIMPLEX, *Hitchcock.* *Simple-fronded Botrychium.*

Frond simple, 3-lobed or 3-cleft; segments unequal; spike subcompound, interrupted, unilateral, bearing sessile capsules of the size of a mustard seed.

Frond solitary, from a torn membranous sheath, erect, two to four inches high, glabrous, pale green, consisting of a small spatulate leaf an inch long and one-third of an inch broad, usually divided into three, rarely four, unequal, somewhat rounded segments, with their margins a little notched. From the base of the leaf, about an inch from the ground, springs a stalk, twice or thrice the length of the leaf, bearing a subcompound unilateral interrupted spike of capsules, sub-tworowed. Root sending forth stout simple fibers: HITCHCOCK *in Sill. Jour.*

Most of the plants found in the following stations are of the lowest forms and extremely variable; from one to seven and a half inches high. Sterile frond usually remote and always separate from the spike; in the smallest specimens a minute spur just under a single spore-case terminating the short stem; in larger plants an oblong entire bract, lower on a stipe bearing a few sporangia; in ordinary forms springing from below the middle of the stipe, short-stalked, half an inch long, once incised or parted more or less deeply, with its fertile spike branching at base; in the largest specimens rising from the stipe near the root, long-stalked, an inch and a quarter in length, three-fourths of an inch broad, four times pinnately divided, the lowest lobes separate from the higher and all enlarged at the end, its fertile frond terminating the long stalk, two inches in length, having three or four pairs of branches, the lowest branching in turn. Stem slender, weak, bending with the fruit.

Cedar swamps: shady borders of the State marsh near Jerusalem hill, Litchfield, Herkimer county; on moss-covered bogs and mounds.

Pastures: near Fall brook, west of Fish creek. Rare. May, June.

OPHIOGLOSSUM, *L.* *Adder's-tongue.*

VULGATUM, *L.* *Common Ophioglossum.*

Fronds of all forms from orbicular and oval to elliptical-lanceolate; often four inches in length, stems sometimes over a foot high.

Spikes occasionally with only a few sporangia at base, above becoming a second frond, three or four lines wide, an inch and a half long.

Dwarf forms occur, having a very short stipe, and a spike only half as high as the frond is long.

Pastures east of Mud lake, Warren; damp banks among arbor vitæ on the shores of Cedar lake, Litchfield; south Herkimer county. Grassy ridges on the Deerfield hills, opposite Utica. Mossy bogs in the old Oriskany swamp. Copses and rich mounds near Fall creek, north of Taberg. Dry hills between Brownville and Dexter, Jefferson county. Marshes at the foot of Owasco lake, Cayuga county. Open woods in Henrietta, Genesee county.

The dwarf form at Exeter, Otsego county, *Torrey Fl. N.Y.;* and in the Fall brook pasture, west of Fish creek. Rare. June, July.

## LYCOPODIACEÆ. *Club-mosses.*

LYCOPODIUM, *L.* *Lycopodia.*

LUCIDULUM, *Michaux.* *Shining Lycopodium.*

Mossy banks, ravine-sides, moist woods. Common. August – December.

INUNDATUM, *L.* *Overflowed Lycopodium.*

Bogs and marshy borders of ponds. North Herkimer county, on the wet flats surrounding elevated ponds at each end of Bald rock, north of the first three in the chain of Eight lakes, a form with short forking stems, and small narrow weak entire erect leaves.

Five miles west of Rome, at the border of the swamp, beside the Watertown railroad, along the base of a bank of excavation facing the north, on damp sand, a form with long straight stems and large broad rigid sharply-toothed spreading leaves; abundant, though of recent appearance in this a newly-made station. Rare. September, October.

ANNOTINUM, *L.* *Year-marked Lycopodium.*

Deep woods. Frequent, but more abundant on the hills. August, September.

DENDROIDEUM, *Michaux.* *Tree-like Lycopodium.*

Sandy fields and woods. Common. August – November.

CLAVATUM, *L.* *Club-fruited Lycopodium.*

Barren, old open thicket-fields. Common. August – October.

COMPLANATUM, *L.* *Flattened-fronded Lycopodium.*

Sidehills, sandy or rocky openings. Common. September – November.

## SELAGINELLA, *Beauvois.* *Selaginellas.*

RUPESTRIS, *Spring.* *Rock Selaginella.*

Dry open rocks. Littlefalls, north side of the river. Alexandria bay, Jefferson county. Rare. August – October.

APUS, *Spring.* *Stemless Selaginella.*

Wet banks. Abundant round Cedar lake, Litchfield, south Herkimer county. Sandy borders of swamps, Rome, *Knieskern.* About Salina, under the Solar Salt-works. Scarce. August.

## MARSILEACEÆ. *Marsileads.*

## ISOETES, *L.* *Quillwort.*

LACUSTRIS, *L.* *Lake Isoetes.*

On rocks on the bottoms of rivers: New-York, in the Oswego river near the the falls, *v. v. Pursh.*

This plant was so named when all forms were considered the same, and identical with *I. lacustris* of Europe. Among the species of our time, it must belong either to *I. echinospora* or to *I. braunii*, DURIEU; closely allied species, the chief distinction being in the small needle-like projections of the spores, which in the former are compressed, somewhat flattened and very fragile; in the latter they are conoid and much firmer: both distinguished, by soft light green or even yellow leaves which are gradually subulate, from *I. lacustris*, whose leaves are dark green, rigid, and more linear throughout. Rare. August, September.

## AZOLLA, *Lamarck.*

CAROLINIANA, *Willdenow.* *Carolinian Azolla.*

Stagnant water and miry banks. In all the side-waters of Lake Ontario, from the marshes five miles northeast of Oswego, to Braddock's bay, Monroe county: often completely covering the water with a purple velvet mantle. Common near the shore, but not observed at any distance from the Lake. August.

# ADDENDA.

To ATRAGENE AMERICANA, p. 53, the stations :

Along the cliffs of Bignose point on the Mohawk, Montgomery county. On a hill above Unadilla-forks, Otsego county, *Gray*.

Before CLEMATIS VIRGINIANA, p. 54, the species :

OCHROLEUCA, *Aiton.* *Yellow-white-flowered Clematis.*

Sandy hilly woods, westward of Crownpoint, Essex county; where it was discovered by G. T. STEVENS.

To ANEMONE CYLINDRICA, the stations :

Abundant on the Pine plains between Albany and Schenectady. Near Owasco lake, Cayuga county. *I. H. Hall.* Shore of Lake Ontario near Irondequoit bay, Monroe county.

To A. PENNSYLVANICA, the stations :

Marshes of Jordanville, Warren; and around the East Dry-lot pond, Litchfield, Herkimer county These are localities without inlet or outlet, and have no connection with streams either northward or southward, on the summits of our highest hills : remarkable for a plant usually occurring along the largest streams and Lake shores.

Also frequent in southern Oneida county and the adjacent parts of Otsego and Madison counties, *Gray*.

To RANUNCULUS AQUATILIS, var. DIVARICATUS, the range :

Abundant in the inlets and bays of Lake Ontario, from Oswego to Braddock's bay, Monroe county.

To R. PURSHII :

This species received the name *R. lacustris* from L. C. BECK and J. G. TRACY a little earlier than the present one from RICHARDSON. This was given in the second edition of *Flora of the Polar regions*, of which the first edition was published in 1823.

One of the first papers read before the Albany Lyceum of Natural History was a description of this new species of Ranunculus; which afterward was published in the *New-York Medical and Physical Journal* for January 1823, as follows :

RANUNCULUS *lacustris.* Leaves all submerged, alternate, dichotomously divided into numerous capillary segments; with clasping membranaceous stipules. Peduncles emerging, dichotomous, slightly furrowed. Flowers terminal, large. Calyx spreading, hairy, fleshy, caducous. Petals five to eight, obovate, larger than the leaves of the calyx, and larger than those of *R. bulbosus.* Nectary petal-like, cucullate-tubular, nearly equalling the length of the filaments. Fruit oval. Stem floating, branched, glabrous, hollow, round, from two to four feet in length, extending radical fibres from the lower joints. Roots fibrous, short.

HABITAT. In a stagnant pond near Lansingburgh on the Hudson river, and in a similar situation near Lewiston on the Niagara.

On the appearance of *Hooker's Flora Boreali Americana*, which adopted *R. purshii*, these gentlemen reaffirmed their name, with another description and a plate, in the Transactions of the Albany Institute.

The plant also occurs in marshes east of Onondaga lake, and along the shore of Lake Ontario. In Sodus bay, it grows high on a sandy point, and changes its character for the place, having a creeping underground rootstalk, sending up erect stems bearing two to four petioled leaves, which are nearly half an inch broad and twice notched at the end, or the highest sessile, obovate, entire.

To R. FLAMMULA, p. 55, the station :

Abundant on a long peninsula running out into Sodus bay, just inside the point, covering low sandy banks in thick patches, with *Eleocharis olivacea* and *Scirpus pauciflorus*, in a grove of *Populus monilifera*. The small form : stems and carpels often downy.

To MAGNOLIA ACUMINATA, p. 57, the range :

Occasional throughout Cayuga, Wayne and Monroe counties; most frequently along streams or near the shores of lakes, but sometimes in high forests.

To NELUMBIUM LUTEUM, p. 58 :

More particularly the station of this noble plant at Sodus bay is near the head on the east side, above and below the ruins of an old bridge, extending down across the present ferry and on towards the wharf, covering an acre or more.

Most of it is near the marshy shore in shallow water, with leaves, flowers and fruit elevated above the surface by high rigid petioles and peduncles. The leaves have a peculiar velvety surface that cannot be made wet, on which, at morning, the dewdrops glisten brighter than gems in the sun, and present a most beautiful sight. The flowers are immense, nearly white, and are truly splendid. So indeed they are regarded by the numbers who go from far and near to gather them all summer. Yet the plants seem to be not only flourishing, but on the increase, spreading along the shore in both directions by its huge tuberous roots. July – September.

To BRASENIA PELTATA, the range :

Frequent in the ponds and marshes bordering Lake Ontario, from north of Oswego, southward and westward.

After NYMPHÆA ODORATA, the variety and species :

The remark "sometimes in mud, with erect leaves and flowers", "Cedar lake and Hidden lake", refers to

var. MINOR, *Sims.* *Smaller Fragrant Nymphæa.*

N. MINOR : foliis cordatis integerrimis, subtus nervis venisque prominentibus, pedunculis petiolisque pilosiusculis, stigmate 16 – 20-radiato.

Rhizoma horizontale, repens, oblongum. Petioli teretes, pilosi. Folia glabra, superne intense viridia, subtus purpurea, cordata, obtusissima, auriculis magis divaricatis et acuminatis quam in *N. odorata*. Pedunculi pilosi. Flores minores quam *N. odoratæ*, extus rosei in planta spontanea ex cl. Purshio, albi in individuis cultis ex radicibus ab ipso Purshio in Angliam adsportatis. Cl. hortulanus Anderson qui plurimas Nymphæaceas diu et feliciter coluit hanc speciem ab *odorata* distinctam pronunciavit, et ipse Purshius ab hac opinione non recedit : DECANDOLLE *Systema.*

Plant small in all its parts. Leaves cordate, ovate, three to four inches in diameter, a little longer than broad, smooth both sides, green above, deep red-purple beneath, with prominent radiating veins, seven of which are basal and five from the midrib on each side; lobes approximate, frequently overlapping, rounded or often ending in a short point. Flowers diminutive and delicate, from one to two inches in length; sepals brown; petals white, or sometimes the outer tinged with pink externally, very fragrant, with the odor of honey. Ovary spherical, filled with light-colored loosely-arilled seeds. Upper part of the peduncles and petioles villose or thick downy, and more or less pubescent below. Stipules red, longer than broad, ovate, lacerate at end, thick-membranous with scarious margins. Rhizoma slender, three-fourths of an inch in diameter, covered with very fine dense hairy pubescence; branching frequently, of a dingy-pink color.

The Water-lily of Otsego, south Herkimer and Madison counties. On Hidden lake it inhabits shallow mossy pools, lifting its flowers and leaves above water by peduncles not more than a foot in length; but in deep water, its habit is the same with the typical plant,

In the north woods of Herkimer, Hamilton and Essex counties, all lakes ponds, marshes are full of a *Nymphæa*, which doubtless is this variety: if so, the true *N. odorata* has not been observed in this State west of the valley of the Hudson river. June – August.

The plant referred to as "The variety with inodorous flowers", is the following:

TUBEROSA, *sp. nov.* *Tuber-bearing Nymphæa.*

Rhizomate longe repente crasso e lateribus tuberifero, stipulis lunatis multum oblique decurrentibus ubique relictis; foliis orbiculatis subtus prominenter venosis, auriculis sæpissime acuminatis; floribus pæne inodoris; connectivo staminum exteriorum supra antheram in cuspidem elongato; arillo seminum obsoleto vel brevi cupulæformi rarius completo.

Rhizoma deeply imbedded in mud, running horizontally, sending down in clusters long chord-like roots furnished with innumerable fibrous radicles, rarely branching, three to six feet long, one to two inches thick, varying in size but not regularly interrupted, with an uneven surface, somewhat compressed, scattered with short pubescence, bearing tubers from its sides, which are frailly connected by their bases narrowed into necks only one to three lines in diameter, usually short, often half an inch in length. Tubers oval, one to three inches long, half to three-fourths of an inch thick, with a rough tubercular surface, the tubercles elevated just back of the buds of elementary leaves, arranged in eight perpendicular series with five spiral rows in one direction to three in the other, bearing both roots and tubers when present; the tubers often in clusters from being repeatedly proliferous, sometimes occurring so frequently as to conceal the trunk, becoming separate plants when detached. Stipules in the axils of the petioles and embracing them by long lobes, shorter than broad, crescent-shaped, with thin wavy margins. Petioles and peduncles striate with nerves and crimson veins, often pubescent above in lines with long silky purple hairs. Leaves of two forms: submerged form short-petioled, thin and transparent, the lobes divaricate and forming a right-angle at base; floating leaves large, from eight to eighteen inches in diameter, exactly orbicular, sometimes retuse with sides contracted becoming angular, entire or undulate margined, green with a dark centre and even above, light-green or a little yellow below, with prominent nerves of which on each side twelve radiate from the centre and five to seven from the strong channelled midrib, sometimes having a few brown hairs along the veins and edges of the division; lobes approximate, parallel, or meeting in the largest forms, ending with an acute point and a sinus. Flowers two to four inches long, expanding four to seven, exhaling a slight vanilla-like fragrance at opening, but soon inodorous. Sepals four, green without, light within, as long as the flower. Petals many, the outer tinged with green externally, the inner snow-white, oblanceolate in outline, delicately straight-veined. Anthers yellow, long with converging cells, the connective elongated into a minute red cusp. Appendages of the stigma sixteen to twenty, short, obtuse, at first ascending and lying against the filaments, soon curving over as many rays of the disk. End of the central axis short, a line or more high, convex. Capsule globose or oblate, when maturing drawn to the bottom by the spiral coiling of the peduncle. Seeds acorn-shaped, red, with the usual raphe. Arillus defective, commonly a shallow cup surrounding the base of the seed, sometimes investing it halfway, or occasionally a mere rudiment, and rarely complete.

A larger plant than the other species, equal in beauty but wanting in fragrance. From *N. odorata*, var. *minor*, of course it is as remote as possible in every part. From *N. odorata* itself, it differs in its peculiar tubers, great leaves, large flowers of little odor, and imperfect arils. From *N. alba* of Europe, in addition to the tubers, it is separate by a continuous stem instead

of one vertical at first, leaves so highly veined, a slight odor of flower, and the usually incomplete arillus. So similar, however, is it to the latter, that it seems to have been considered the same by NUTTALL in the single locality he records. The root-stalks prolong themselves indefinitely, yet only short portions are vigorous supporting leaves and flowers, the old parts declining as fast as the young ends increase. The tubers, too, attain a certain size, then wait to be broken off or to be separated by decay. Their multiplication in clusters occurs only on remaining tubers; and all, if not by any cause removed, when they have reached maturity, do not grow any larger, remaining inactive until they die with the old root. But when liberated, they float about to some new bank; as soon as striking it, shooting down rootlets and sending out their already developed delicate submerged leaves, soon to be followed by others for the surface. These tubers, somewhat resembling those of *Helianthus tuberosus* or of *Boussingaultia baselloides*, are always present, sometimes few and single, usually frequent and abundant: as many as thirty have been counted on a section of rootstalk only six inches in length. By the slightest disturbance, they loosen and rise to the surface, and can be secured in place only by the greatest care in removal. The leaves would easily be recognized from others by their shape and appearance, as well as by their peculiar venation and remarkable size, largest in the bays of Lake Ontario, at Sodus bay rivalling even those of *Nelumbium luteum;* in imitation of which, also, both leaves and flowers rise high above the surface on stout stems in shallow water. The flowers may truly be termed magnificent, but their odor is faint and transient. The coiling of the flowerstems in deep water is more striking and complete than in the scapes of *Vallisneria spiralis*, though not so uniform; drawing the ovaries not only under water, but to the very ground; a habit that will be verified by any success of obtaining fruit in autumn. The trunks of this plant are soft and pliable, composed of a cellular or pithy substance which is very astringent. Cattle devour its immense leaves, venturing far into the water for them: in like manner, the deer of the north woods come down from the hills to the lakes at night to feed on the lily-pads so abundant there.

The Water-lily of Western New-York and the Great Lakes. It has been found: in St. Lawrence river, at Alexandria bay, Jefferson county: in Lake Ontario; filling all marshes beyond the shore for miles northeast of Oswego, where it was observed in 1861; in the bays of Wayne county, most abundant in the channels at the head of Big Sodus bay; plentiful in Irondequoit bay, throughout the swamps among the ends of ridges westward formed by streams setting back against bars thrown up by the waves, marshes of Charlotte in the mouth of the Genesee river, common in Round pond, Long pond, Cranberry pond, and Braddock's bay, Monroe county: in Niagara river below Buffalo, by G. W. CLINTON: in the Detroit river, by J. M. BIGELOW: in Western New-York; farthest east in Oneida lake, where it is abundant near its head a little west of South bay, in marshes of *Dianthera americana* and *Scirpus lacustris;* all along the sides of Oswego river; frequent in the outlet of Owasco lake, and occasionally in the lake itself; common in the marshes of Cayuga river and lake; Clyde river through Wayne county; at Branchport, foot of Crooked lake, by SARTWELL; in Canandaigua lake, more abundant however in its old closed outlet; in Genesee river above Rochester, by DEWEY.

Late-flowering; in the waters of Lake Ontario the flowers not appearing until August, and abundant throughout September; but inland earlier, July and August. Frequent.

To NUPHAR KALMIANA, the habitat:

Common in the marshes of Oneida lake, in deeper water, farther out than *Nymphæa tuberosa.*

Before CHELIDONIUM *MAJUS*, p. 59, the species;

ARGEMONE, *L.* *Prickly Poppy.*

*MEXICANA*, L. *Mexican Argemone.*

Frequently spontaneous in cultivated grounds and waste lots in Auburn Cayuga county, *I. H. Hall.* July – September.

To NASTURTIUM LACUSTRE, p. 60, the range:

Common in all inlets and bays along the southern shore of Lake Ontario,

After THLASPI *ARVENSE*, p. 62, the species :

CAKILE, *Tournefort.* *Sea-rocket,*

AMERICANA, *Nuttall.* *American Cakile.*

Sandy beaches. Frequent on the shore of Lake Ontario, from a few miles north of Oswego, to Sodus point, Wayne county, where it is in force, and Braddock's bay, Monroe county. July – October.

To PARNASSIA CAROLINIANA, p. 64, the stations :

Abounding in an extensive swamp among the hills of Warren, near Jordanville, south Herkimer county: the only station that has been observed south of the Mohawk valley.

Before MEDICAGO *LUPULINA*, p. 72, the species :

*SATIVA.* L. *Lucerne. Purple, Sown Medicago.*

Gravelly banks, borders of grass-lands. Deerfield creek, in meadows on the flats and on sloping bases of the gulf-sides. Scarce. June, July.

After PHASEOLIS PERENNIS, p. 74, the species :

DIVERSIFOLIUS, *Persoon.* *Varied-leaved Phaseolus.*

Shore of Lake Ontario between Irondequoit bay and Charlotte mouth of Genesee river, Monroe county, on a low sandy bar thrown up by the water, at the shady base of a ridge-side and along the end of a marsh near its outlet.

A small dwarfed state, only a foot and a half long. prostrate, having entire dark green leaves, peduncles shortened, no longer than the petioles, borne in the axils throughout the length of the stem, all bearing large deep-purple flowers with keels curving to one side : a singular and very pretty form.

Rare. August, September.

To APIOS TUBEROSA, the habitat :

Common on the borders of marshes northeastward of Oswego, and abundant westward near the Lake shore.

To CASSIA MARILANDICA, p. 75, the station :

Banks and hillsides west of Owasco lake, Cayuga county.

After POTENTILLA NORVEGICA, p. 77, the species :

PARADOXA, *Nuttall.* *Strange-fruited Potentilla.*

Decumbent at the base, pubescent; leaves pinnate; leaflets 7 – 9, obovate-oblong, incised, the upper ones confluent; stipules ovate, mostly entire; peduncles (alar) solitary, recurved in fruit; calyx-segments all nearly equal, acute, about the length of the obovate petals; receptacle villous; achenia striate, 2-lobed, the lower portion (the enlarged base or insertion filled with starch) as large as the proper carpel : NUTTALL, *mss. in Torr. & Gray Fl.*

Specimens of ordinary size have single erect stems cymosely branching; but the largest plants send out two to five in addition, which are prostrate and spreading. Leaves all radical. Flowers small. Appendages to the achenia quite conspicuous.

Sandy shores. Beach of Lake Ontario at Braddock's bay, Monroe county; abundant on the point between the bay and the lake.

Rare. July – September.

Before LYTHRUM SALICARIA, p. 80, the species :

AMMANNIA, *Houston.* *Ammannia.*

HUMILIS, *Michaux.* *Low Ammannia.*

Bog-borders. Around sandy pools and banks of rivulets in the Pine barrens between Albany and Schenectady, near the Central railroad and Centre station. Rare. July, August.

To MYRIOPHYLLUM VERTICILLATUM, p. 81, the range :

Common in the lakes of the western part of the State and waters of Lake Ontario.

On OPUNTIA VULGARIS, p. 82, the remark :

It is quite improbable that this plant ever was found native on the high cold hills of Fairfield. Professor GRAY regards it as altogether impossible : certainly he was perfectly acquainted with the flora of that region at the time of this reference, and would have known it had it been in existence there. Doubtless it is confined to the valley of the Hudson river, and its most northern locality may be West-Point, Orange county, or possibly Hudson, Columbia county.

To VIBURNUM PUBESCENS, p. 88, the habitat :

Abundant on the rocky steeps between Yost's and Palatine bridge, Montgomery county.

To VALERIANA SYLVATICA, p. 90, the station :

In extensive tamarack marshes among the hilltops of Warren, south Herkimer county; where it occurs in great quantity, often growing in patches.

After ASTER SIMPLEX, p. 92, the species :

TENUIFOLIUS, *L.* *Narrow-leaved Aster.*

Swamps of Jordanville, south Herkimer county, where it abounds. Rare. August.

After SOLIDAGO SPECIOSA, p. 93, the species :

VIRGA-AUREA, *L*, var. HUMILIS, *Gray.* *Dwarf Goldenrod.*

Swamps on the hills south of the Mohawk valley. On the State marsh, Litchfield, Herkimer county. Rare. June, July.

To S. OHIOENSIS, the station :

Common in the dry marly portions of the West-Bergen swamp, northeastern Genesee county.

To BIDENS BECKII, p. 96, the station :

Outlet of Owasco lake, Cayuga county, *I. H. Hall.*

After ARTEMISIA *VULGARIS*, p. 97, the species :

BIENNIS, *Willdenow.* *Biennial Artemisia.*

Barren banks. Oswego, *G. W. Clinton.* Adventive at all stations in this State. Rare. August – October.

To ONOPORDON *ACANTHIUM*, p. 98, the station :

Ledges of limestone, and roadsides near Page's corners, on the hills of Warren, south Herkimer county.

After CAMPANULA ROTUNDIFOLIA, p. 100 :

On dry steep sides of high ridges west of Irondequoit bay, Monroe county, has been gathered a *Campanula* of unusual size and character, having a strong rigid erect stem three to four feet in height, with linear leaves three to five inches in length, deeply channelled and curved, bearing in the axils clusters of smaller leaves, and, from the very root to the top of the stem, simple branches ending in long slender peduncles of one to three small nodding terminal flowers. June – August.

After PYROLA SECUNDA, p. 103 :

The plant referred to by the remark "In the high cold cedar swamps of Summit lake", &c., is thought worthy of being designated as

var. PUMILA. *Slender Onesided-flowering Pyrola.*

Stems three to five inches high, erect, not reclining at base. Leaves in two or three annual clusters; most always just circular, but sometimes broader

than long notched, and sometimes oval a little longer than broad obtuse, finely crenulate, quite thin, of an extremely light green color above, pale beneath; in marked contrast with the dark green, coriaceous, elliptical leaves of the common *P. secunda*, which merge into the petiole and are mucronate-acute at end. Scape slender; with two or three minute pointed bracts. Racemes strictly erect, three- to eight-flowered, very loose; flowers hanging usually on one side, narrowly cylindrical, pale green; anthers carried beyond the petals by long deep purple shining filaments; styles far exserted.

On damp moss under the shade of tamaracks and arbor vitæ, in all the large marshes among the hilltops between the vallies of the Mohawk and Susquehanna rivers, from above Summit lake, Otsego county, to the swamp near Cedar lake, south Herkimer county.

This remarkable diminutive variety, growing in moss of deep bogs, with thinner orbicular and more serrulate leaves of only half or three-fourths of an inch in diameter, much like those of *Moneses uniflora*, the slender scape only four- to nine-flowered, is very distinct in appearance, and must be the same with the "Varietas pumila biuncialis, foliis ad basim confertis orbiculatis in petiolum brevem decurrentibus serratis", of CHAMISSO, in LINNÆA, collected at Eschscholtz bay in Russian America, and which LEDEBOUR in *Flora Rossica* commends to further observation as to whether it may claim to be a distinct species. The leaves in the New-York specimens, however, are nearly all perfectly rounded at the base. Among the specimens in my herbarium, I find this form only from Labrador, *Dr. Storer;* North shore of Lake Superior, *C. G. Loring jr.;* and from the Northern Rocky mountains coll. *Bourgeau :* GRAY.

To UTRICULARIA GIBBA, p. 104 :

This plant differs remarkably from other species, in mode of inflorescence. Others continue to flower by prolonging their racemes; while the scapes of this species are only one- to three-flowered. Yet it remains longer in flower than any other, by sending up an indefinite series of scapes from a disk-like centre among the roots; so that on one side of the flowering stem may be found a decaying old one in fruit, and on the other a new one springing up, from June to September.

To POLEMONIUM CÆRULEUM, p. 115 :

This plant, so rare eastward, and remarkably separated from its home in the northwest and among the Rocky mountains, has again been found by Mr. GILBERT in Delaware county, among the hill-tops of Meredith, on the borders of several swamps.

All these stations prove the plant to be usual about the springs and marshes on the high cold hills between the headwaters of Oleout and Schoharie creeks, and southeastward between the Susquehanna and Delaware rivers. The lowest pass over the latter is 2150 feet above tidewater, and the heights of these rolling ranges of hills cannot be less than 2500 feet.

Thus this section, with the exception of mountains, is indicated to be the most elevated in the State, by the subalpine *Polemonium*, as well as actual measurements. The level of the northern wilderness is only from 1500 to 1800 feet above the sea : Raquette lake, the source of Raquette river flowing northward to the St. Lawrence, is elevated 1745 feet; the chain of Eight lakes, headwaters of Moose river, average about 1700 feet; the two lakes that give rise to Black river, emptying into Lake Ontario, stand 1820 feet; and Jock's lake, fountain of West-Canada creek and the highest lake in the woods, is 2188 feet. In the southwestern part of the State, the sources of Alleghany river are from 1290 (Chautauqua lake), to 2000 feet above the level of the ocean.

To GENTIANA QUINQUEFLORA, p. 116, the stations :

Along thicket-covered sidehills above the cliffs of Bignose on the Mohawk, Montgomery county. Banks of the outlet of Owasco lake, Cayuga county. Common on the sides of ridges ending on the shore of Lake Ontario, from Sodus bay, Wayne county, to the steep banks of Irondequoit bay, and the mouth of Genesee river, Monroe county.

After G. CRINITA, p. 117, the species :

DETONSA, *Fries.* *Shortened-fringed Gentian.*

On the very verge of bluffs along Lake Ontario west of Irondequoit bay, and on shaded moist sides of ridges, with *Campanula rotundifolia* and *G. quinqueflora* : low, one to four inches high, one-flowered, most beautiful and delicate plants chiefly; but sometimes higher, and in all respects the same with the form on the wet rocks of Niagara falls. Rare. August, September.

On G. ALBA, the remark :

This plant, which is also abundant in marshes about Owasco lake, may be a white-flowered form of *G. andrewsii.*

After POLYGONUM AVICULARE, var. ERECTUM, p. 121, the species :

TENUE, *Michaux.* *Slender Polygonum.*

Common on the dry shady rocky steeps between Yost's and Palatine bridge, Montgomery county. Scarce. July – October.

To P. ARTICULATUM, the stations :

Abundant in wastes of clear sand between Albany and Schenectady, near Centre station, where sometimes the plants are very large, two feet high. At Oneida lake, it may be found along the shore near the mouth of Fish creek, in sandy copses. Oak openings of Charlotte, Monroe county, *Bradley.*

To CERATOPHYLLUM DEMERSUM, var. ECHINATUM, p. 123, the range:

Common in the waters of the western part of the State and Lake Ontario.

To EUPHORBIA POLYGONIFOLIA, the range :

This plant proves to be as common on the shore of Lake Ontario as on the Coast itself, from Oswego county to Braddock's point, Monroe county.

To POPULUS MONILIFERA, p. 129, the stations :

Common along the shore of Lake Ontario, from Sodus point, Wayne county, to Braddock's bay, Monroe county; always near the water, and occupying the narrow sandy elevations separating bays, ponds, inlets, marshes from the Lake.

On a low point running out into Sodus bay there is a long grove of these trees, of a medium height, however, and not over a foot in diameter. But over the ridge against Long and Cranberry ponds there are many fine lofty specimens fifty or sixty feet high, and more than three feet through.

A few trees occur, also, along the outlet of Canandaigua lake, Ontario county, having quite small deltoid leaves, the lower ones on the twigs as broad again as long sometimes; young branches one-half or three-fourths of an inch in diameter, slightly winged, and a red willow-like bark.

The species :

ANGULATA, *Aiton.* *Angled-stemmed Populus.*

Replaces the common form at Braddock's bay, Monroe county; and appears quite frequently in the town of Gorham, Ontario county. Rare.

To P. BALSAMIFERA, the range :

Occasional from a few large trees at the mouth of Genesee river opposite Charlotte, to the base of Cranberry pond, Monroe county, where there are clusters of young and middle-sized growth.

To TYPHA ANGUSTIFOLIA, p. 131, the range :

Bogs along the berm-bank of the Erie canal in Montgomery county.

To SPARGANIUM EURYCARPUM, the range :

Common in the marshes of Lake Ontario, bordering all bays and inlets.

To LEMNA GIBBA, p. 132, the range :

Bays and inlets of Lake Ontario, from marshes northeast of Oswego to Braddock's bay, Monroe county, commonly covering the water in dense patches : easily distinguished by its thickness, being lens-shaped, arched aboved, below inflated and cellular.

To NAJAS MAJOR :

The statement that the habitats given are the only ones known on the Western Continent must be enlarged to include another, Irondequoit bay, Monroe county, where it was first detected by E. J. PICKETT.

The presence of a plant of so well-established maritime character, in a bay of a freshwater lake, is at once surprising and suspicious. But the mystery is easily cleared. The belt of Medina sandstone commencing just southwest of Utica, in two or three thin layers below the Oneida conglomerate, each crowded with the characteristic fossil the old *Fucoides harlani*, extending through the western part of this county, southern Oswego, along the shore of Lake Ontario in northern Cayuga, Wayne, Monroe counties and westward, is everywhere saliferous, abounding in springs and wells from some of which salt was manufactured in old times. A series of these springs, from Vernon, Oneida county, to the Niagara river, originate in the shales and marls of this rock wherever sufficiently near the surface to be subject to leaching by rains, and frequently yield so much saline matter as to affect vegetation. Many occur in Monroe county, along margins and beds of small streams, part of them emptying into Irondequoit bay, one of the largest being located near its head. The water from these springs is briny to the taste, and may accumulate in such a long landlocked inlet of the Lake in sufficient quantity to make the water brackish, just as the overflowings of salt springs affect Onondaga lake, thus supplying the necessary condition for this marine plant.

To PLATANTHERA ROTUNDIFOLIA, var. OBLONGIFOLIA, p. 135 :

Mud lake, on whose damp mossy borders this plant has its station, is a small round pond in a depression among the very highest tops of the hills between the Mohawk and Susquehanna vallies, and is about 1500 feet above tide in the Hudson river.

To CYPRIPEDIUM ARIETINUM, p. 140 :

The height of Summit lake above tidewater is 1350 feet. Above its head is a large open moss bog, very shaky and full of sloughs, bordered by tamaracks and surrounded by an extensive arbor-vitæ swamp, the locality of many rare plants; the very source both of the Susquehanna river, and also of Otsquago creek descending to the Mohawk.

To CHAMÆLIRIUM LUTEUM, p. 143, the station :

Springy rocky steeps just west of Bignose cliffs on the Mohawk, Montgomery county; on the open almost upright sides of the hill.

After ELEOCHARIS OBTUSA, p. 147, the species :

OLIVACEA, *Torrey.* *Olive-fruited Eleocharis.*

Culms filiform, often diffuse, compressed, sulcate, soft; spike ovate, somewhat obtuse, many-flowered; scales ovate, obtuse, membranaceous; bristles 6, nearly as long as the nut; style bifid; nut obovate, lenticular, dull; tubercle conical, rostrate, distinct : TORREY *Cyp.*

Culms cespitose, erect, diffuse or somewhat decumbent, usually about a span long and nearly a line in diameter, but often dwarfish and slender, of a soft flexible texture, with mucronate sheaths at the base. Spikes 3 – 4 lines long, 20 – 30 flowered, sometimes rather acute. Scales closely or somewhat loosely imbricated : one or two of the lowest shorter and bract-like; the others with a narrow scarious margin. Bristles pretty stout, retrorsely hispid. Stamens 3. Achenium smooth, sometimes a little shining, dark olive when ripe. Tubercle rather free around the base, acute or somewhat obtuse, about one-third the length of the achenium : TORREY *Fl. N. Y.*

On a sandy peninsula extending into Sodus bay just inside the point, where it is very abundant; equally common on the highest ground in the long Cottonwood grove, and on low banks with *Cyperus inflexus* and *Scirpus debilis*. Not before detected away from the Coast. July – October.

To SCIRPUS PAUCIFLORUS, p. 148, the station :

Common at Sodus bay, Wayne county; all over the barren point against Lake Ontario, and scattered over the sandy peninsula in the bay with *Eleocharis olivacea*.

To S. PLANIFOLIUS, the station :

Dry pine woods on the banks of the Hudson above Albany, and on the opposite side of the river, *C. H. Peck*.

To PANICUM ZANTHOPHYSUM, p. 173, the station :

In a barren field east of East-Albany, *C. H. Peck*.

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IN addition to the *Flora* and later *Catalogue* of the plants of the State by Dr. TORREY, this catalogue includes the following native plants :

RANUNCULUS FLAMMULA.
NYMPHÆA ODORATA, var. MINOR.
NYMPHÆA TUBEROSA.
DENTARIA HETEROPHYLLA.
TURRITIS GLABRA.
LESPEDEZA STUVEI.
GEUM VIRGINIANUM.
POTENTILLA PARADOXA.
RIBES HIRTELLUM.
RIBES RUBRUM.
DIPLOPAPPUS AMYGDALINUS.
SOLIDAGO PUBERULA.
SOLIDAGO SPECIOSA,
var. ANGUSTATA.
SOLIDAGO HOUGHTONII.
SOLIDAGO LINOIDES.
PYROLA SECUNDA, var. PUMILA.
DODECATHEON MEADIA.
UTRICULARIA CLANDESTINA.
UTRICULARIA GIBBA.
SCHWALBEA AMERICANA.
LITHOSPERMUM HIRTUM.
POLEMONIUM CÆRULEUM.
CHENOPODIUM GLAUCUM.
ATRIPLEX HASTATA,
var. OBLONGIFOLIA.
POLYGONUM NODOSUM,
var. INCARNATUM.
POLYGONUM CAREYI.
POLYGONUM ACRE.
CALLITRICHE AUTUMNALIS.
URTICA GRACILIS.
POPULUS ANGULATA.
JUNIPERUS SABINA,
var. PROSTRATA.
SPARGANIUM EURYCARPUM.
SPARGANIUM NATANS.
NAJAS MAJOR.
POTAMOGETON ROBBINSII.
POTAMOGETON PRÆLONGUS.
SAGITTARIA HETEROPHYLLA.
SAGITTARIA GRAMINEA.
PLATANTHERA ROTUNDIFOLIA,
var. OBLONGIFOLIA.
CYPRIPEDIUM CANDIDUM.
TRILLIUM SESSILE.
TOFIELDIA GLUTINOSA.
JUNCUS DEBILIS.
XYRIS BULBOSA.
ELEOCHARIS COMPRESSA.
SCIRPUS PAUCIFLORUS.
SCIRPUS CLINTONII
SCIRPUS FLUVIATILIS.
CAREX PRAIREA.
CAREX CEPHALOIDEA.
CAREX SCABRIOR.
CAREX TENELLA.
CAREX ARGYRANTHA.
CAREX SYCHNOCEPHALA.
CAREX LENTICULARIS.
CAREX STRICTIOR.
CAREX GYNANDRA.
CAREX EMMONSII.
CAREX ROSTRATA.
CAREX GRAYII.
CAREX LUPULIFORMIS.
CAREX RETROCURVA.
CAREX VAGINATA.
CAREX WOODII.
CAREX GLABRA.

Carex knieskernii.
Carex richardsonii.
Carex mirata.
Carex vaseyi.
Carex hartii.
Carex ampullacea.
Carex monile.
Carex vesicaria.
Carex physema.
Agrostis perennans.
Woodsia glabella.
Cystopteris fragilis,
var. dentata.
Aspidium dilatatum.
Aspidium boottii.
Botrychium lanceolatum.

Among many naturalized plants, the following are additional :

Argemone mexicana.
Nasturtium officinale.
Nasturtium armoracia.
Reseda luteola.
Silene inflata.
Lychnis vespertina.
Malva moschata.
Trifolium procumbens.
Medicago maculata.
Prunus spinosa.
Rosa setigera.
Fedia olitoria.
Artemisia biennis.
Onopordon acanthium.
Hyssopus officinalis.
Thymus serpyllum.
Atropa belladonna.
Periploca græca.
Chenopodium urbicum,
var. rhombifolium.
Amarantus retroflexus.
Rumex sanguineus.
Rumex acetosa.
Hemerocallis fulva.
Bromus racemosus.
Lolium temulentum.

Five marine or coast plants are new to the interior :

Orontium aquaticum.
Najas major.
Ruppia maritima.
Eleocharis olivacea.
Spartina stricta,
var. alterniflora.

A few references to localities of rare plants out of the limits of the catalogue have been included, when they were the personal observations of the writer or of former Oneida county botanists, or when communicated for this purpose by others, being no other means of preserving the record.

Original descriptions not generally accessible, have been reproduced, of certain rare or interesting plants and others first found in this region.

Additions have been inserted during the last season while the printing has been in progress, through the great kindness of John Paterson, esquire; to whom also is to be referred the unusual accuracy and character of the typography of the work.

Utica, *October*, 1865.

( D. )

# CATALOGUE OF MOSSES

## PRESENTED TO THE STATE OF NEW-YORK

## BY CHARLES H. PECK.

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### ORDER MUSCI.

#### SUBORDER SPHAGNACEÆ.

| | | |
|---|---|---|
| 1 | SPHAGNUM CYMBIFOLIUM, | *Dill.* |
| 2 | " SQUARROSUM, | *Pers.* |
| 3 | " ACUTIFOLIUM, | *Ehrh.* |
| 4 | " CUSPIDATUM, | " |

#### SUBORDER ANDRÆACEÆ.

| | | |
|---|---|---|
| 5 | ANDRÆA PETROPHILA, | *Ehrh.* |
| 6 | " RUPESTRIS, | *Turner.* |

#### SUBORDER BRYACEÆ.

| | | |
|---|---|---|
| 7 | GYMNOSTOMUM CURVIROSTRUM, | *Hedw.* |
| 8 | WEISIA VIRIDULA, | *Brid.* |
| 9 | RHABDOWEISIA DENTICULATA, | *Br. & Sch.* |
| 10 | TREMATODON LONGICOLLIS, | *Rich.* |
| 11 | DICRANUM VIRENS, | *Hedw.* |
| 12 | " VARIUM, | " |
| 13 | " HETEROMALLUM, | " |
| 14 | " FLAGELLARE, | " |
| 15 | " LONGIFOLIUM, | " |
| 16 | " INTERRUPTUM, | *Br. & Sch.* |
| 17 | " SCOPARIUM, var. PALLIDUM, | *L.* |
| 18 | " UNDULATUM, | *Turner.* |
| 19 | CERATODON PURPUREUS, | *Brid.* |
| 20 | LEUCOBRYUM GLAUCUM | *Hampe.* |
| 21 | FISSIDENS MINUTULUS, | *Sulliv.* |
| 22 | " SUBBASILARIS, | *Hedw.* |
| 23 | " ADIANTOIDES, | " |
| 24 | TRICHOSTOMUM TORTILE, | *Schrad.* |
| 25 | " PALLIDUM, | *Hedw.* |
| 26 | " GLAUCESCENS, | " |

| | | |
|---|---|---|
| 27 | Barbula unguiculata, | *Hedw.* |
| 28 | " cæspitosa, | *Schwægr.* |
| 29 | " mucronifolia, | *Br. & Sch.* |
| 30 | Didymodon rubellus, | " |
| 31 | Pottia truncata, | " |
| 32 | Tetraphis pellucida, | *Hedw.* |
| 33 | Ecalypta ciliata, | " |
| 34 | Zygodon lapponicus, | *Br. & Sch.* |
| 35 | Drummondia clavellata, | *Hook,* |
| 36 | Orthotrichum strangulatum, | *Beauv.* |
| 37 | " leiocarpum, | *Br. & Sch.* |
| 38 | " ludwigii, | *Schwægr.* |
| 39 | " hutchinsiæ, | *Smith.* |
| 40 | " crispum, | *Hedw.* |
| 41 | Schistidium apocarpum, | *Br. & Sch.* |
| 42 | Grimmia pennsylvanica, | *Schwægr.* |
| 43 | Racomitrium aciculare, | *Brid.* |
| 44 | " microcarpum, | " |
| 45 | Hedwigia ciliata, | *Ehrh.* |
| 46 | Buxbaumia aphylla, | *Haller.* |
| 47 | Diphyscium foliosum, | *Web. & Mohr.* |
| 48 | Altrichum undulatum, | *Beauv.* |
| 49 | " angustatum, | " |
| 50 | Pogonatum brevicaule, | *Brid.* |
| 51 | Polytrichum commune, | *L.* |
| 52 | " formosum, | *Hedw.* |
| 53 | " juniperinum, | " |
| 54 | " piliferum, | *Schreb.* |
| 55 | Timmia megapolitana, | *Hedw.* |
| 56 | Aulacomnion heterostichum, | *Br. & Sch.* |
| 57 | " palustre, | *Schwægr.* |
| 58 | Bryum pyriforme, | *Hedw.* |
| 59 | " annotinum, | " |
| 60 | " nutans, | *Schreb.* |
| 61 | " roseum, | " |
| 62 | " wahlenbergii, | *Schwægr.* |
| 63 | " argenteum, | *L.* |
| 64 | " pseudo-triquetrum, | *Schwægr.* |
| 65 | " cæspiticium, | *L.* |
| 66 | Mnium affine, | *Bland.* |
| 67 | " punctatum, | *Hedw.* |
| 68 | " subglobosum, | *Br. En.* |
| 69 | " serratum, | *Brid.* |
| 70 | " spinulosum, | *Br. En.* |
| 71 | " cuspidatum, | *Hedw.* |
| 72 | " lycopodioides, | *Br. En.* |
| 73 | Meesia uliginosa, | *Hedw.* |
| 74 | Bartramia œderi, | *Swartz.* |
| 75 | " pomiformis, | *Hedw.* |
| 76 | " fontana, | *Brid.* |
| 77 | " muhlenbergii, | " |
| 78 | Funaria hygrometrica, | *Hedw.* |
| 79 | Physcomitrium pyriforme, | *Br. & Sch.* |
| 80 | Aphanorhegma serrata, | *Sulliv.* |

| | | |
|---|---|---|
| 81 | FONTINALIS GIGANTEA, | *Sulliv. & Lesgt.* |
| 82 | " NOVÆ-ANGLIÆ, | " |
| 83 | " DALECARLICA, | *Br. En.* |
| 84 | DICHELYMA FALCATUM, | *Myrin.* |
| 85 | " CAPILLACEUM, | *Br. En.* |
| 86 | LEUCODON BRACHYPUS, | *Brid.* |
| 87 | LEPTODON TRICHOMITRIUM, | *Mohr.* |
| 88 | ANOMODON OBTUSIFOLIUS, | *Br. & Sch.* |
| 89 | " ATTENUATUS, | *Hub.* |
| 90 | LESKEA POLYCARPA, | *Hedw.* |
| 91 | " OBSCURA, | " |
| 92 | " ROSTRATA, | " |
| 93 | THELIA ASPRELLA, | *Sulliv.* |
| 94 | MYURELLA CAREYÂNA, | " |
| 95 | PYLAISÆA INTRICATA, | *Br. En.* |
| 96 | PTERIGYNANDRUM FILIFORME, | *Hedw.* |
| 97 | HOMALOTHECIUM SUBCAPILLATUM, | *Br. En.* |
| 98 | PLATYGYRIUM REPENS, | " |
| 99 | CYLINDROTHECIUM CLADORHIZANS, | " |
| 100 | " SEDUCTRIX, | " |
| 101 | NECKERA PENNATA, | *Hedw.* |
| 102 | CLIMACIUM AMERICANUM, | *Brid.* |
| 103 | " DENDROIDES, | *Web. & Mohr.* |
| 104 | HYPNUM TAMARISCINUM, | *Hedw.* |
| 105 | " DELICATULUM, | *L.* |
| 106 | " SCITUM, | *Beauv.* |
| 107 | " ABIETINUM, | *L.* |
| 108 | " PALUDOSUM, | *Sulliv.* |
| 109 | " TRIQUETRUM, | *L.* |
| 110 | " BREVIROSTRE, | *Ehrh.* |
| 111 | " SPLENDENS, | *Hedw.* |
| 112 | " ALLEGHANIENSE, | *C. Mull.* |
| 113 | " HIANS, | *Hedw.* |
| 114 | " PILIFERUM, | *Schreb.* |
| 115 | " STRIGOSUM, | *Hoffm.* |
| 116 | " SERRULATUM, | *Hedw.* |
| 117 | " RECURVANS, | *Schwægr.* |
| 118 | " MOLLE, | *Dickson.* |
| 119 | " SCHREBERI, | *Willd.* |
| 120 | " CORDIFOLIUM, | *Hedw.* |
| 121 | " UNCINATUM, | " |
| 122 | " FILICINUM, | *L.* |
| 123 | " CRISTA-CASTRENSIS, | " |
| 124 | " IMPONENS, | *Hedw.* |
| 125 | " REPTILE, | *Michx.* |
| 126 | " CURVIFOLIUM, | *Hedw.* |
| 127 | " MOLLUSCUM, | " |
| 128 | " HALDANIANUM, | *Grev.* |
| 129 | " RUGOSUM, | *Ehrh.* |
| 130 | " SALEBROSUM, | *Hoffm.* |
| 131 | " LÆTUM, | *Brid.* |
| 132 | " RUTABULUM, | *L.* |
| 133 | " VELUTINUM, | " |
| 134 | " RIVULARE, | *Br. En.* |

| | | | |
|---|---|---|---|
| 135 | HYPNUM | NOVÆ-ANGLIÆ, | *Sulliv. & Lsgr.* |
| 136 | " | POLYMORPHUM, | *Br. En.* |
| 137 | " | HISPIDULUM, | *Brid.* |
| 138 | " | SUBTILE, | *Hoffm.* |
| 139 | " | ADNATUM, | *Hedw.* |
| 140 | " | RADICALE, | *Brid.* |
| 141 | " | ORTHECLADON, | *Beauv.* |
| 142 | " | RIPARIUM, | *Hedw.* |
| 143 | " | DENTICULATUM, | *L.* |
| 144 | " | MUHLENBERGII, | *Br. En.* |

Of the 144 species named above, 104 were found in the town of Sandlake, Rensselaer county, N.Y. The remaining 40 species are partly from the vicinity of Albany, and partly from the Helderberg and the Catskill mountains.

( E. )

# FACTS AND OBSERVATIONS

## TOUCHING THE FLORA OF THE STATE OF NEW-YORK.

### BY ONE OF THE REGENTS.

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The Regents, relying upon the sympathy and assistance of the botanists of the State, have commenced putting the State Herbarium in order, and propose to augment and perfect it, and to collect full and accurate materials for a new and complete catalogue of the plants of the State.

The contents of this paper will, it is hoped, sufficiently indicate the nature of the information which the Regents wish to acquire as materials for the proposed catalogue. Any addition to, or correction of, any one of the original lists contained in this paper, will be thankfully received. All plants intended for the herbarium, and all communications, should be addressed, as heretofore, to "S. B. Woolworth, LL.D., Secretary of the Regents, Albany." Where a plant not indicated in Torrey's Catalogue nor in the additional list herein given, or a new station of a rare plant, is discovered, the fact should be communicated, and the most perfect and best prepared specimens of the plant should be sent with the communication.

In 1853, the State published "A Catalogue of the Cabinet of Natural History of the State of New-York," &c. To this Dr. Torrey contributed Lists of the Plants described in the State Flora, and also a List of "Plants discovered and collected since the publication of the Flora." These lists compose what is herein meant by Torrey's Catalogue, or the Catalogue of 1853, and includes 1537 species.

The last mentioned list—the list of plants discovered since the publication of the Flora, is not now easily accessible, and, therefore, is republished here.

Robinia viscosa.
Vicia caroliniana.
Stellaria longipes.
Trifolium incarnatum.
Pyrus malus.
Œnothera riparia.
Galium concinnum.
Phlomis tuberosa.
Lithospermum latifolium.
Onosmodium carolinianum.
Amaranthus tamarascinus.
Chenopodium murale.
Salix fragilis.
Salix babylonica.
Salix eriocephala.
Salix angustata.
Melanthium hybridum.
Carex steudelii.
Carex paniculata.
Carex vulgaris.
Carex torta.
Carex grisea.
Carex platyphylla.
Carex comosa.
Panicum pauciflorum.
Avena sativa.
Spartina polystachya.
Cinna pendula.
Cinna arundinacea.

The following species, inserted in the Flora on the authority of Pursh, have not been found in the State by any other botanist, and, probably, never existed therein.

1. Spiræa aruncus, *L.*
2. Salvinia natans, *L.*

The following species, once spontaneous in the State, and included in the catalogue, there is reason to fear have become extinct. Some of them have been diligently sought for, in vain, in the stations where they were originally found. The Pinguicula has been extirpated at Rochester, but may exist at or near the upper waters of the Genesee river, and the writer is very confident that it will be found in the Adirondacks.

1. Aconitum uncinatum, *L.*
2. Zanthorhiza apiifolia, *L'Hér.*
3. Trifolium incarnatum, *L.*
4. Phlomis tuberosa, *L.*
5. Pinguicula vulgaris, *L.*

The following is a list of the plants, so far as is known to me, which have been found growing spontaneously in the State, and which are not included in the Catalogue. The name of the discoverer, or the authority for its insertion, the date of the discovery, and the station, are added to each species, whenever the same are known to me. Some of these plants are mere scapes, and, perhaps, are not entitled to a place in a catalogue of the plants permanently spontaneous in the State. It is believed that the valuable Catalogue of the Plants of Oneida county and vicinity, by the Rev. John A. Paine Jun., which will be published herewith, will add somewhat to this list, and also to the list of stations hereinafter given.

1. *Reseda luteola*, L. "Roadsides in Western New-York." GRAY'S Manual.
2. *Reseda odorata*, L. Buffalo, 1862 : Garden scape. G. W. C.
3. *Reseda alba*, L. Buffalo, 1862 : Garden scape. G. W. C.
4. *Nasturtium officinale*, L. Common on Long Island : T. F. ALLEN, M.D. Near Rochester : Rev. L. HOLZER. Caledonia,&c. G.W.C.
5. *Nasturtium sylvestre*, R. BR. Spontaneous about Flushing, Queens county : W. H. LEGGETT.
6. *Nasturtium armoracia*, FRIES. Rather common about Buffalo, and abundant on the banks of the Mohawk below Utica. It would seem that it must be diffused by its seed. G. W. C.
7. *Lepidium draba*, L. See Addenda to GRAY'S Manual : D.C.EATON.
8. *Lepidium sativum*. Buffalo, 1864 : Garden scape, and spontaneous in gardens. G. W. C.
9. *Lepidium ruderale*, L. Near Brooklyn : W. H. LEGGETT.
10. *Turritis glabra*, L. New-York city, on 86th-street, 1860 : W. H. LEGGETT. Buffalo, 1863 : DAVID F. DAY, Esq.
11. *Barbarea præcox*, R. BR. Lake Avenue, Rochester, 1864 : Garden scape. Rev. L. HOLZER.
12. *Brassica campestris*, L. Buffalo, on the marshy edge of the river; only a few plants, 1863. G. W. C.
13. *Raphanus sativus*, L. Buffalo ; a common weed in grain-fields. G.W.C.
14. *Ascyrum crux-andreæ*, L. New-Dorp, Staten Island, September 1864 : T. F. ALLEN, M.D.
15. *Silene inflata*, SMITH. Near Fort Richmond, Staten Island, 1860 : T.F.ALLEN, M.D. Abundant near Buffalo, on the Buffalo creek below the Sulphur spring, 1862. G. W. C.
16. *Silene armeria*, L. Buffalo; spontaneous in gardens, but seldom escaping : D. F. DAY.
17. *Lychnis vespertina*, SIBTH. "Elmira, N.Y. : E. TATNALL." GRAY'S Manual, in the Addenda.
18. *Althæa rosea*, L. Buffalo; garden scape, rare. G. W. C.
19. *Althæa ficifolia*, L. Buffalo ; garden scape, rare. G. W. C.
20. *Malva moschata*. Buffalo, Portage, Chantauqua county, Cattaraugus county, naturalized. G. W. C.
21. *Rosa setigera*, MX. Several places near Rochester : C. M. BOOTH, M.D. Near Buffalo. G. W. C. Naturalized, if not native.
22. *Pyrus communis*, L. Grand Island, near Buffalo, in a grove of oak, a single tree; in the same grove, is an apple tree; and, as they were, until recently, remote from any dwelling, they are believed to be spontaneous.
23. *Ribes rubrum*, L. In a swamp on the Scajaquada creek, near Forest Lawn, Buffalo, 1863 : D. F. DAY, Esq. Not uncommon, as a garden scape, about Buffalo; apparently native, in a wooded ravine, below Westfield, Chautauqua county, 1864. G. W. C.
24. *Sedum acre*, L. Buffalo, Williamsville, Niagara Falls, 1863 ; naturalized. G. W. C.
25. *Carum carui*, L. Naturalized, by roadsides and fences, in Erie and Chautauqua counties.
26. *Anethum fœniculum*, L. Buffalo; garden scape : D. F. DAY.

27. *Coriandrum sativum*, L. Buffalo; garden scape, rare. G. W. C.
28. *Solidago bicolor*, L., var. *concolor*, GRAY. Washington county, Dr. E. HOWE.
29. *Helianthus annuus*, L. A frequent scape from gardens, but seems to become depauperate at once, and soon disappears.
30. *Galinsoga parviflora*, CAV. "Waste places, New-York," &c.: GRAY's Manual. Brooklyn: A. WOOD. New-York and Flushing, 1864: T. F. ALLEN.
31. *Matricaria parthenium*, L. Garden scape; Buffalo.
32. *Matricaria balsamitæ*, WILLD. Buffalo; seems inclined to perpetuate itself in cemeteries, etc.
33. *Matricaria chamomilla*, L. Near Buffalo, 1864; spontaneous in a garden, and escaping: D. F. DAY & G. W. C.
34. *Tragopogon porrifolius*, L. On a gravelly bank of the Erie railroad, about a mile west of Salamanca, Cattaraugus county, remote from any garden or dwelling, abundant, 1864. G. W. C.
35. *Tragopogon pratense*. Rochester; a single plant: Rev. L. HOLZER.
36. *Artemisia abrotanum*, L. Buffalo, 1863; garden scape, firmly established in the sand of the opposite Canadian shore, by the ruins of a deserted house. G. W. C.
37. *Silybum marianum*. Buffalo; garden scape, 1862, D.F.DAY; 1863, G. W. C.
38. *Onopordon acanthium*, L. Albany, 1827; Queenstown, 1862: G.W.C. Rochester, 1864: C. M. BOOTH, M.D.
39. *Cirsium altissimum*, SPRENG. Buffalo, 1862. G. W. C.
40. *Lactuca sativa*, L. An occasional, but not enduring, garden scape. G. W. C.
41. *Cassiope hypnoides*, DON. "Alpine summits of the Adirondack mountains, Dr. PARRY:" GRAY's Manual.
42. *Martynia proboscidea*, GLOX. Greenbush, Rensselaer county, 1827; Lewiston, Niagara county. 1863; an occasional garden scape. G. W. C.
43. *Linaria genistifolia*, MILL. "Roadsides, New-York, near the city: H. G. CLARK, LESQUEREUX." GRAY's Manual.
44. *Lithospermum hirtum*, LEHM. Buffalo, 1862: G. W. C. Rochester, 1864: Rev. L. HOLZER.
45 *Polemonium cæruleum*, L. "Borders of a marsh three miles east of Charlottesville, Schoharie county, New-York: Dr. E. C. HOWE." GRAY's Manual.
46. *Phlox paniculata*, L. Richfield Springs, Otsego county, in a bushy field; perhaps garden scapes, 1862. G. W. C.
47. *Ipomæa purpurea*, LAM. Buffalo, 1862–4; the outcast of gardens, on rubbish heaps, and, rarely, a scape. G. W. C.
48. *Cuscuta inflexa*, ENGELM. Youngstown, Niagara county, 1864: D.F. DAY & G. W. C. Salamanca, Cattaraugus county, 1864: G.W.C. This is the *C. umbrosa*, BEYR., of Dr. ENGELMANN in GRAY's Manual; but whether it be the *C. umbrosa* of the State Flora, quære?
49. *Lycopersicum esculentum*, MILL. Buffalo; a frequent scape, almost naturalized. G. W. C.

50. *Physalis philadelphica*, LAM. Buffalo, 1863; brought by railroad trains? G. W. C.

51. *Physalis pubescens*, L. Buffalo, 1863. G. W. C.

52. *Lycium barbarum*, L. Suspension Bridge, Niagara county, 1864; more bushy, and more decidedly armed than when in cultivation. G. W. C.

53. *Gentiana andrewsii*, var. *albiflora*, GRAY ined. Salamanca, Cattaraugus county, 1862: G.W.C. Buffalo, 1864: D.F.DAY. Auburn, Rev. L. HOLZER.

54. *Periploca græca*, L. "Near Rochester, New-York." GRAY'S Manual.

55. *Corispermum hyssopifolium*, L. Buffalo, 1862. G. W. C.

56. *Chenopodium urbicum*, L. Westchester, Westchester county: A. A. ADEE.

57. *Chenopodium urbicum*, L., v. *rhombifolium*, MOQUIN. Buffalo, 1862; Salina, 1864: G.W.C. Rochester, 1854: D.F.DAY. Probably both the species and variety are common in the State.

58. *Chenopodium glaucum*, L. Salina, 1862; Albany, 1863; Buffalo, 1864: G. W. C. The Island of New-York, 1861: T.F.ALLEN.

59. *Roulieva multifida*, MOQUIN. "Waste places, New-York, in and around the city: G. CAREY." GRAY'S Manual.

60. *Amarantus polygonoides*, L. Albany, 1864: G. W. C. This is the *Amaranthus deflexus*, WILLD.? of the State Flora, as appears by the specimen in the State Herbarium. But *Euxolus deflexus*, RAF. (*Amarantus deflexus*, L.) is credited, by GRAY'S Manual, to waste places about the city of New-York.

61. *Montelia tamarascina*, GRAY. "I have another species of this section, collected by my friend Mr. G. CAREY in a swamp near Whitehall; but, owing to the confusion that exists in the genus, I am unable to determine without better materials than I can command at present" (State Flora, vol. 2, p. 145). The plant referred to, as appears by a specimen in the State Herbarium, is *Montelia tamarascina*, GRAY; the *Amaranthus tamarascinus* of the additional list of 1853.

62. *Polygonum incarnatum*, ELL. Buffalo, 1863: G. W. C. Rochester, 1854: Rev. L. HOLZER.

63. *Polygonum pennsylvanicum*, L., a var.? with greenish white flowers; Buffalo, 1863: G. W. C.

64. *Polygonum acre*, H. B. K. Buffalo, 1862; Cayuga marshes, 1864: G. W. C. Believed to be common throughout the State.

65. *Rumex altissimus*, WOOD. "Peekskill, MEAD:" GRAY'S Manual. Buffalo, 1864: G. W. C.

66. *Rumex hydrolapathum*, HUDSON, var.? *americanum*, GRAY. Buffalo, 1862; Cayuga marshes, 1864: G. W. C. Probably common in the western and northern parts of the State. It is not clear whether this, or the last species, is the *Rumex britannicus* of the State Flora.

67. *Callitriche autumnalis*, L. Alexandria bay, Jefferson county, 1863: G. W. C.

68. *Euphorbia lathyris*, L. Silver creek, Chautauqua county, 1863, nat.: G. W. C.

69. *Euphorbia peplus*, L. Received from W. M. Beauchamp, Esq., of Skaneateles, 1864; a common garden weed there.
70. *Urtica gracilis*, Ait. Common in the State, at least in the western portion of it.
71. *Naias major*, Allioni. In the Onondaga lake, and in the mouth of a stream and pools on the beach of the lake at Liverpool, Onondaga county, September 1864. G. W. C.
72. *Potamogeton robbinsii*, Oakes. "White-Plains, New-York: H. G. Clark." Gray's Manual.
73. *Potamogeton prælongus*, Wulf. Niagara river, New-York: Wood's Class Book.
74. *Potamogeton niagarensis*, Tuck. Goat Island, just above Luna Island, Niagara Falls: Prof. Tuckerman.
75. *Sagittaria heterophylla*, Pursh. Common, in the western part of the State at least.
76. *Smilax glauca*, Walt. Staten Island, common, 1864: T. F. A.
77. *Smilax tamnoides*, L. Staten Island, 1864; one plant only: T. F. A.
78. *Trillium sessile*, L. Rochester, 1863; only one specimen collected: Rev. L. Holzer.
79. *Hemerocallis fulva*, L. Buffalo; garden scape: G. W. C.
80. *Scirpus pauciflorus*, Lightfoot. "Watertown, near Lake Ontario: Dr. Crawe." Gray's Manual.
81. *Scirpus clintonii*, Gray in Sill., vol. 38, p. 290. Buffalo, June 1864: G. W. C.
82. *Carex sychnocephala*, Carey. "Jefferson county, Vasey & Knieskern; and Little-falls, New-York, Vasey." Gray's Manual.
83. *Carex rostrata*, Michx. "Cold bogs; Mountains of New-York, New-Hampshire, northward." Gray's Manual.
84. *Carex grayii*, Carey. "Low meadows on the banks of the Mohawk, and of Wood creek, New-York." Gray's Manual.
85. *Carex extensa*, Good. Coney Island, 1860, and again in 1864: T. F. Allen.
86. *Carex mirata*, Dew. "In Greece, eleven miles west of Rochester and six south of Lake Ontario, in 1829, by Dr. S. B. Bradley." Dewey in Sill., vol. 38, p. 290.
87. *Aristida purpurascens*, Poir. Common in Suffolk county, and at High Bridge on the Island of New-York, 1864: T. F. Allen.
88. *Aristida tuberculosa*, Nutt. Coney Island, August 1864: T. F. Allen.
89. *Poa sylvestris*, Gray. Buffalo, 1864: G. W. C.
90. *Bromus racemosus*, L. Buffalo, G. W. C.; and, probably, common in the State.
91. *Bromus mollis*, L. "Wheat-fields, New-York and Pennsylvania; scarce." Gray's Manual.
92. *Cynosurus cristatus*, L. Rochester and Buffalo, in lawns and courtyards, creeping into the streets, 1864. G. W. C.
93. *Lolium temulentum*, L. Buffalo, 1862: G. W. C.
94. *Triticum vulgare*, L. Common along railroads, and about flouring mills, etc.; very rarely in woods. Not naturalized.
95. *Hordeum distichum*, L. Same remarks.

96. *Secale cereale*. L. Commonish as a culture weed.
97. *Setaria italica*, KUNTH. Buffalo, 1862 : G. W. C.
98. *Equisetum palustre*, L. Squaw and Strawberry Islands, near Buffalo, 1862 : G. W. C.
99. *Woodsia glabella*, R. BROWN. Little-falls, Herkimer county : Dr. GEORGE VASEY.
100. *Aspidium cristatum*, var. *major*, EATON ined. Akron, Erie county, and Caledonia, Livingston county, 1864. G. W. C.
101. *Botrychium virginicum*, var. *simplex*, GRAY. Buffalo, 1864 ; a large form. G. W. C.
102. *Azolla caroliniana*, WILLD. Charlotte, Monroe county : Rev. L. HOLZER. Irondequoit Bay : E. G. PICKETT. Burnt-ship Bay at the foot of Grand Island, 1864 : G. W. C.
103. *Duvalia rupestris*, SULL. One of the HEPATICACEÆ, new to this country, until discovered in Schuyler county by Professor E. G. PICKETT of the People's College, in 1864.

Of the plants named in the foregoing list, it is feared that the following have disappeared from the State.

1. PERIPLOCA GRÆCA, *L.*
2. CAREX SYCHNOCEPHALA, *Carey.*
3. CAREX MIRATA, *Dewey.*

The following plants have been found growing so near the State, and under such circumstances, as to warrant the belief that they now are growing, or will soon extend themselves to and become natives of the State.

1. *Alyssum calycinum*, . Brock's Monument, Canada, 1863 : D. F. DAY & G. W. C.
2. *Glycyrhiza lepidota*, NUTT. Canadian shore opposite Buffalo, 1862 : G. W. C.
3. *Dysodia chrysanthemoides*, LAG. On the Lake Huron railway in Canada, opposite Buffalo, 1863 : G. W. C.

The following plants, which are either maritime or principally affect the seacoast, have been found on or near the coast of Lake Erie, within or near the State.

1. *Cakile americana*, NUTT.
2. *Lathyrus maritimus*, BIGELOW.
3. *Euphorbia polygonifolia*, L.
4. *Myrica cerifera*, L. Erie, Pennsylvania, 1864 : G. W. C.
5. *Zannichellia palustris*, L.
6. *Scirpus maritimus*, L.
7. *Calamagrostis arenaria*, ROTH. Erie, Pennsylvania, 1864 : G. W. C.
8. *Tricuspis purpurea*, GRAY. Buffalo, 1862 : G. W. C.

The following plants, which are either maritime or affect the seacoast, have been found in, or in the marshes adjoining the head of, the Onondaga lake.

1. *Ranunculus cymbalaria*, PURSH.
2. *Blitum maritimum*, NUTT. 1864 : G. W. C.
3. *Atriplex hastata*, L.
4. *Salicornia herbacea*, L.
5. *Naias major*, ALLIONI. 1864 : G. W. C.
6. *Zannichellsa palustris*, L. 1864 : G. W. C.
7. *Ruppia maritima*, L. 1864 : Rev. JOHN A. PAINE jr.
8. *Triglochin maritimum*, L.
9. *Juncus bulbosus*, L. 1864 : G. W. C.
10. *Scirpus maritimus*, L.
11. *Leptochloa fascicularis*, GRAY. 1864 : G. W. C.
12. *Panicum proliferum*, LAM. 1864 : G. W. C.

The following are new stations of rare plants, or remarkable stations of common plants, and have not been hereinbefore given.

1. *Clematis ochroleuca*, AIT. New-Dorp, Staten Island. Flowers middle of May; in fruit in June, 1864 : T. F. ALLEN.
2. *Ranunculus pusillus*, POIR. New-Dorp, Staten Island, June 1864 : T. F. ALLEN, M D.
3. *Nasturtium lacustre*, GRAY. Buffalo, 1863 : G. W. C.
4. *Turritis stricta*, GRAHAM. Lewiston, Niagara county, 1863 : G.W.C.
5. *Draba arabisans*, MICHX. "The counterfeiter's ledge," Akron, Erie county, 1864 : D. F. DAY & G. W. C.
6. *Polanisia graveolens*, RAF. Gravesend, Kings county : J.F.S.SMITH, M.D.; W. H. LEGGETT, Esq.
7. *Euonymus americanus*, L. High Bridge, Island of New-York, 1860 : T. F. ALLEN.
8. *Desmodium lævigatum*, DC. Patchogue, Suffolk county, September 1864 : T. F. ALLEN.
9. *Viola selkirkii*, GOLDIE. Hanover, Chautauqua county, 1863 : D. F. DAY, Esq.
10. *Viola tricolor*, var. *arvensis*, DC. Buffalo, 1863 : G. W. C.
11. *Potentilla fruticosa*, L. Caledonia, Livingston county, 1834 : G.W.C.
12. *Conioselinum canadense*, T. & G. Portage, Wyoming county, 1863 ; Caledonia, Livingston county, 1864 : G. W. C.
13. *Lythrum salicaria*, L. Flushing, Queens county, August 1864 : T.F. ALLEN, M.D.
14. *Cuphea viscosissima*, JACQ. Fort Washington, Island of New-York, September 1864 : W. H. LEGGETT & T. F. ALLEN.
15. *Lonicera oblongifolia*, HOOK. Akron, Erie county, 1864 : D. F. DAY & G. W. C. Caledonia, Livingston county, 1864 : G. W. C.
16. *Eupatorium hyssopifolium*, L. Abundant in Suffolk county, 1864 : T. F. ALLEN.

17. *Aster spectabilis*, Ait. Suffolk county, 1864 : T. F. Allen.

18. *Aster concolor*, L. Suffolk county, 1864 : T. F. Allen.

19. *Aster ptarmicoides*, T. & G. Niagara county, near the Whirlpool, 1862 : G. W. C.

20. *Solidago tenuifolia*, Pursh. Common on New-York and Staten Islands : T. F. Allen.

21. *Rudbeckia hirta*, L. Common on Long Island : T.F.Allen. Diffused through the central portions of the State, from Chautauqua county to Albany, in meadows and pastures. G. W. C.

22. *Anthemis arvensis*, L. Fort Hamilton, Queens county, September 1864 : T. F. Allen. Bath, Long Island, September 1864 : W. Leggett. Rochester, a weed in nurseries : Rev. L. Holzer.

23. *Cacalia suaveolens*, L. Rochester, 1864 : Rev. L. Holzer.

24. *Sonchus arvensis*, L. Shore of the Cayuga lake, Tompkins county : H. B. Lord, Esq. Rochester, 1864 : G. W. C. Staten Island, 1864 : T. F. Allen.

25. *Pyrola uliginosa*, T. & G. Sphagnous swamp in the Tonawanda reservation, about five miles east of Akron, Erie county, 1864 : D. F. Day & G. W. C.

26. *Pterospora andromedea*, Nutt. Portage, Wyoming county, 1863 : G. W. C. I have seen it at Niagara Falls, and in two or three places near Albany. So far as I have observed, it always grows under or very near *Pinus strobus*, L.

27. *Ilex monticola*, Gray. Rock City, Cattaraugus county, 1864 . G.W.C.

28. *Hottonia inflata*, Ell. Common on Long Island : T. F. Allen.

29. *Pycnanthemum muticum*, Pers. Rochester, 1864 : Rev.L.Holzer.

30. *Convolvulus arvensis*, L. Buffalo, 1862 : D. F. Day & G. W. C.

31. *Euphorbia ipecacuanha*, L. Common in Suffolk county, and about Flushing and Jamaica in Queens county : T. F. Allen.

32. *Alnus serrulata*, Willd., was found by D. F. Day, Esq., in 1863, on Squaw Island, near Buffalo, occupying a very limited station, and, so far as we know, is confined in this region to that station. *A. incana*, Willd., is the common Alder of the vicinity of Buffalo.

33. *Zannichellia palustris*, L. Flushing, Queens county, 1864 : T. F. Allen. Buffalo, 1864 : Rev. L. Holzer.

34. *Erythronium albidum*, Nutt. Banks of the Buffalo creek near Buffalo, 1863 : G. W. C.

35. *Festuca duriuscula*, L. Buffalo, 1864 : G. W. C.

36. *Eleocharis rostellata*, Torr. "Gathered by me about Flushing, and also about Springfield, Long Island. The form occurring here (as in New-Durham, N.J., where I first found it) is very remarkable for its long proliferous culms, which give it the appearance of grass beaten down by wind or rain ; and it entangles the feet." T. F. Allen, M.D.

37. *Carex subulata*, Michx. Magnolia swamps, Long Island, August 1864 : T. F. Allen.

( F. )

# RESULTS OF METEOROLOGICAL OBSERVATIONS.

## I. METEOROLOGICAL SYNOPSIS FOR 1864: TOLEDO, OHIO.

BY J. B. TREMBLEY, M.D.

OBSERVATIONS taken three times per day, by J. B. TREMBLEY, M.D., in the city of Toledo, Ohio: Latitude N. 41° 38′ 47″.04; Longitude W. 82° 22′ 17″.15.

BAROMETRICAL TABLE, showing the maximum and minimum height for the different months of the year 1864; also the mean monthly height, range, greatest and least daily variation; also the maximum, minimum, mean barometrical range, and greatest and least daily variation for the years 1864, 1863, 1862, 1861 and 1860.

| MONTHS. | Maximum height. | Date. | Minimum height. | Date. | Mean height for the month. | Range for the month. | Greatest daily variation. | Date. | Least daily variation. | Date. |
|---|---|---|---|---|---|---|---|---|---|---|
| January .. | 29.68 | 2 | 28.94 | 13 | 29.346 | 0.74 | 0.38 | 1 | 0.02 | 22 |
| February . | 29.79 | 18 | 28.64 | 4 | 29.187 | 1.15 | .47 | 1 | .03 | 12 |
| March ... | 29.55 | 22 | 28.64 | 18 | 29.144 | .91 | .32 | 28 | .03 | 16 |
| April .... | 29.52 | 28 | 28.88 | 10 | 29.194 | .64 | .29 | 27 | .02 | 14 |
| May ..... | 29.89 | 5 | 28.92 | 10 | 29.162 | .47 | .22 | 3 | .01 | 14 |
| June ..... | 29.61 | 28 | 28.90 | 9 | 29.344 | .71 | .27 | 8 | .00 | 17 |
| July..... | 29.50 | 27 | 29.12 | 1 | 29.330 | .38 | .13 | 8 | .00 | 27 |
| August ... | 29.49 | 7 | 28.92 | 26 | 29.258 | .57 | .14 | 23 | .01 | 16 |
| September | 29.48 | 30 | 28.98 | 14 | 29.256 | .50 | .27 | 15 | .02 | 27 |
| October ... | 29.62 | 31 | 28.93 | 27 | 29.200 | 0.69 | .18 | 31 | .02 | 7 |
| November. | 29.67 | 25 | 28.58 | 9 | 29.229 | 1.09 | .40 | 9 | .05 | 18 |
| December, | 29.85 | 9 | 28.63 | 27 | 29.185 | 1.22 | 0.39 | 9 | 0.03 | 16 |
| 1864.... | 29.85 | | 28.58 | | 29.236 | 0.75 | 0.57 | | 0.00 | |
| 1863.... | 29.81 | | 28.47 | | 29.280 | 0.88 | 1.75 | | 0.00 | |
| 1862.... | 29.83 | | 28.77 | | 29.297 | 0.72 | 0.57 | | 0.00 | |
| 1861.... | 29.90 | | 28.88 | | 29.354 | 0.63 | 0.65 | | 0.00 | |
| 1860.... | 29.87 | | 28.94 | | 29.330 | 0.68 | 0.61 | | 0.00 | |

Mean Barometer for 5 years, 29.279.

TABLE showing the maximum, minimum, mean range, and greatest and least daily variation of the thermometer for each month of the year 1864; also the mean temperature of the warmest and coldest day in each month, with date of same.

| MONTHS. | Maximum height. | Date. | Minimum height. | Date. | Mean temperature for the month. | Monthly range. | Greatest daily variation. | Date. | Least daily variation. | Date. | Mean temperature of the warmest day. | Date. | Mean temperature of the coldest day. | Date. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| January .. | 68 | 28 | —15 | 1 | 27.254 | 83.00 | 23 | 28 | 3 | 29 | 55.66 | 28 | —11.66 | 1 |
| February . | 59 | 23 | — 6 | 18 | 31.829 | 65. | 24 | 19 | 3 | 12 | 49.00 | 23 | — 0.00 | 17 |
| March ... | 67 | 27 | 9 | 21 | 35.717 | 58. | 37 | 27 | 4 | 30 | 53.00 | 28 | 15.33 | 20 |
| April .... | 62 | 21 | 36 | 19 | 46.119 | 26. | 16 | 19 | 1 | 30 | 56.00 | 22 | 39.00 | 16 |
| May ..... | 90 | 31 | 37 | 14 | 63.190 | 53. | 16 | 7 | 3 | 10 | 78.22 | 31 | 43.00 | 11 |
| June ..... | 98 | 28 | 50 | 1 | 70.400 | 38. | 31 | 16 | 8 | 1 | 87.33 | 25 | 53.66 | 1 |
| July ..... | 96 | 30 | 60 | 22 | 75.09 | 36. | 24 | 5 | 2 | 9 | 83.33 | 19 | 65.00 | 22 |
| August ... | 96 | 11 | 49 | 30 | 71.10 | 47. | 24 | 10 | 1 | 20 | 85.33 | 11 | 60.00 | 30 |
| September | 82 | 23 | 45 | 30 | 61.519 | 37. | 24 | 23 | 6 | 27 | 71.00 | 23 | 50.00 | 30 |
| October .. | 65 | 5 | 28 | 9 | 48.000 | 37. | 22 | 20 | 1 | 28 | 61.00 | 5 | 37.66 | 8 |
| November, | 70 | 29 | 13 | 13 | 40.641 | 57. | 22 | 25 | 2 | 10 | 65.33 | 29 | 22.00 | 22 |
| December. | 54 | 2 | 1 | 9 | 27.641 | 53. | 23 | 28 | 0 | 23 | 51.00 | 2 | 6.66 | 8 |
| 1864.... | 98 | | —15 | | 49.953 | 49.99 | 37 | | 0 | | 87.33 | | 11.65 | |
| 1863.... | 95 | | 6 | | 51.069 | 48.58 | 28 | | 0 | | 85.33 | | 16 33 | |
| 1862.... | 97 | | — 2 | | 51.316 | 45.25 | 35 | | 1 | | 87.00 | | 16.33 | |
| 1861.... | 96 | | — 4 | | 50.368 | 46.66 | 30 | | 0 | | 87.00 | | 9.65 | |
| 1860.... | 94 | | 10 | | 49.343 | 44.13 | 41 | | 2 | | 83.00 | | 2.66 | |

Mean Temperature for 5 years, 50.41.

TABLE showing the mean temperature of each month of the years 1860, 1861, 1862, 1863 and 1864; also the mean of each year.

| MONTHS. | 1860. | 1861. | 1862. | 1863. | 1864. |
|---|---|---|---|---|---|
| January ..... | 28 87 | 25.55 | 27.090 | 34.104 | 27.254 |
| February ..... | 30.56 | 33.00 | 27.317 | 31 166 | 31.820 |
| March ..... | 42.56 | 35.88 | 34.835 | 35.244 | 35.717 |
| April ..... | 48.37 | 49.43 | 49.350 | 48.615 | 46.119 |
| May..... | 63.96 | 55.01 | 60.147 | 63.060 | 63.190 |
| June ..... | 64.18 | 69.48 | 66.186 | 68.275 | 70.400 |
| July ..... | 72 00 | 70.26 | 79.900 | 74.507 | 75.090 |
| August..... | 70.21 | 71.48 | 74.170 | 72.950 | 71.103 |
| September .... | 59.16 | 62.90 | 66 064 | 61.651 | 61.519 |
| October ..... | 50.87 | 53.38 | 53.824 | 44.878 | 48.000 |
| November..... | 37.33 | 39.91 | 40.785 | 44.163 | 40.641 |
| December..... | 24.05 | 38.14 | 36.125 | 34.223 | 27.641 |
| Mean for year. | 49.343 | 50.368 | 51.316 | 51.069 | 49.900 |

TABLE showing the mean temperature of the seasons 1860, 1861, 1862, 1863 & 1864

| SEASONS. | 1860. | 1861. | 1862. | 1863. | 1864. |
|---|---|---|---|---|---|
| Spring..... | 51.63 | 46.77 | 47.977 | 48.973 | 48.008 |
| Summer ..... | 68 79 | 70.40 | 73.418 | 71.91 | 72.164 |
| Autumn ..... | 49.12 | 52.06 | 53.557 | 50.23 | 50.052 |
| Winter ..... | *29.765 | 25.53 | 30.849 | 30.43 | 31.106 |

* Two months : January and February.

TABLE showing the depth of snow, and amount of melted snow and rain in inches precipitated during each month of 1864; also the aggregate amount for the years 1864, 1863, 1862 and 1861.

| MONTHS. | Snow in inches. | Melted snow and rain in inches. |
|---|---|---|
| January ..... | 12.500 | 0.375 |
| February ..... | 3.250 | 0.9375 |
| March ..... | 7 750 | 1.9375 |
| April ..... | 5.000 | 4.75 |
| May..... | ..... | 2.1875 |
| June. ..... | ..... | 3.5 |
| July..... | ..... | 3 25 |
| August ..... | ..... | 4.211 |
| September .... | ..... | 7.006 |
| October ..... | 0.125 | 1.6875 |
| November .... | 6.500 | 5.8125 |
| December..... | 13.000 | 1.5 |
| Year 1864 .... | 48.125 | 37.1545 |
| " 1863 .... | 86.813 | 33.837 |
| " 1862 .... | 63.000 | 43.998 |
| " 1861 .... | 41.370 | 39.664 |
| Mean for 4 years. | 59.827 | 38.6633 |

TABLE showing the direction from which the wind blew; number of clear, variable and cloudy days; number of days in which it rained and snowed during each month of the year; also the same for the years 1863, 1862, 1861 and 1860.

| MONTHS. | SW & W. | NW & W. | NE & E. | SE & S. | No. of clear days. | No. of variable days. | No. of cloudy days. | No days which it rained. | No. days which it snowed. | Prevailing Winds. |
|---|---|---|---|---|---|---|---|---|---|---|
| January .. | 66 | 10 | 12 | 5 | 8 | 7 | 16 | 2 | 9 | Southwesterly and westerly. |
| February . | 68 | 14 | 2 | 3 | 3 | 12 | 14 | 3 | 6 | Southwesterly and westerly. |
| March .... | 42 | 33 | 15 | 3 | 3 | 14 | 14 | 10 | 4 | Southwesterly and westerly. |
| April .... | 27 | 22 | 38 | 3 | 1 | 9 | 20 | 18 | 1 | Westerly and northeasterly. |
| May..... | 47 | 22 | 22 | 2 | 3 | 21 | 7 | 11 | .... | Southwesterly and westerly. |
| June ..... | 28 | 13 | 44 | 5 | 9 | 14 | 7 | 9 | .... | Northeasterly. |
| July ..... | 56 | 18 | 13 | 6 | 6 | 21 | 4 | 7 | .... | Southwesterly. |
| August ... | 47 | 14 | 30 | 2 | 6 | 16 | 9 | 10 | .... | Southwesterly and northeasterly. |
| September | 47 | 16 | 19 | 8 | 8 | 15 | 7 | 11 | .... | Southwesterly. |
| October ... | 48 | 22 | 16 | 7 | 3 | 13 | 15 | 6 | 3 | Westerly. |
| November. | 68 | 8 | 7 | 7 | 4 | 11 | 15 | 7 | 5 | Southwesterly. |
| December. | 64 | 12 | 11 | 6 | 1 | 9 | 21 | 4 | 7 | Southwesterly. |
| 1864.... | 608 | 204 | 229 | 57 | 55 | 162 | 149 | 98 | 35 | Westerly. |
| 1863.... | 482 | 230 | 300 | 81 | 68 | 140 | 157 | 92 | 35 | " |
| 1862.... | 520 | 202 | 282 | 88 | 80 | 143 | 142 | 103 | 46 | " |
| 1861.... | 580 | 192 | 218 | 105 | 70 | 185 | 110 | 51 | 43 | " |
| 1860.... | 501 | 217 | 229 | 148 | 127 | 78 | 161 | 100 | 34 | " |

# II. ABSTRACT OF OBSERVATIONS FOR 1864: NEWBURY, VERMONT.—By David Johnson.

## 1. Meteorological Synopsis.

| Months. | Thermometer. | | | | | | | Winds. | | | | | | | | Weather. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6 A.M. | 12 M. | 6 P.M. | Highest. | Lowest. | Range. | Mean heat | North. | Northeast. | East. | Southeast. | South. | Southwest. | West. | Northwest. | Clear. | Cloudy. | Rain. | Snow. | Snow and rain. | Inches of snow. | Warmest day. | Coldest day. |
| January .. | 16.0 | 26.8 | 23.0 | 42 | —16 | 58 | 21.8 | .... | .... | .... | 1 | .... | 28 | .... | 10 | 13 | 10 | 2 | 5 | 1 | 16 | 24th | 7th |
| February . | 17.3 | 28.9 | 25.2 | 46 | —28 | 74 | 24.1 | .... | .... | .... | 4 | .... | 13 | 2 | 10 | 10 | 13 | 2 | 4 | .... | 14 | 24 | 19 |
| March ... | 24.4 | 37.2 | 34.0 | 51 | 4 | 47 | 31.7 | .... | 2 | .... | 4 | .... | 9 | .... | 16 | 13 | 12 | 4 | 1 | 1 | 5 | 5 | 21 |
| April .... | 32.7 | 50.7 | 45.4 | 64 | 22 | 42 | 42.9 | .... | 10 | .... | 3 | .... | 8 | 1 | 8 | 10 | 10 | 7 | .... | 3 | 9 | 27 | 5 |
| May ..... | 48.4 | 66.3 | 60.8 | 86 | 32 | 54 | 58.5 | .... | .... | .... | 7 | ... | 10 | .... | 14 | 7 | 9 | 15 | .... | .... | .... | 31 | 11 |
| June ..... | 51.2 | 75.8 | 70.5 | 94 | 35 | 59 | 65.9 | .... | .... | .... | 2 | .... | 7 | 1 | 20 | 23 | 2 | 5 | .... | .... | ... | 26 | 10 |
| July ..... | 58.0 | 80.0 | 74.4 | 92 | 42 | 50 | 71.1 | .... | 1 | .... | 4 | .... | 10 | 1 | 15 | 22 | 5 | 4 | .... | .... | .... | 19 | 25 |
| August ... | 61.2 | 79.0 | 71.2 | 98 | 48 | 50 | 70.5 | 1 | 1 | .... | .... | .... | 19 | .... | 10 | 11 | 9 | 11 | .... | .... | .... | 1 | 30 |
| September | 46.5 | 63.3 | 58.2 | 75 | 34 | 41 | 56.3 | .... | 1 | .... | 1 | .... | 15 | .... | 13 | 10 | 6 | 14 | .... | .... | .... | 24 | 26 |
| October .. | 38.6 | 49.8 | 46.0 | 64 | 28 | 36 | 44.8 | ... | 2 | .... | 2 | ... | 13 | .... | 14 | 7 | 13 | 10 | .... | 1 | .... | 6 | 30 |
| November. | 31.5 | 39.2 | 37.3 | 61 | 14 | 47 | 36.0 | .... | 1 | .... | 2 | ... | 13 | 2 | 12 | 6 | 15 | 5 | 2 | 2 | 9 | 10 | 24 |
| December. | 18.4 | 26.6 | 24.0 | 42 | —20 | 62 | 23.0 | .... | 6 | .... | .... | ... | 14 | .... | 11 | 5 | 12 | 5 | 9 | .... | 33 | 1 | 23 |
| | 37.2 | 51.9 | 47.5 | 98 | —28 | 126 | 45.5 | 1 | 24 | .... | 30 | .... | 151 | 7 | 153 | 137 | 116 | 84 | 21 | 8 | 86 | | |

## 2. Appearance of Spring Birds, &c.

March 22. Ground birds appeared.
" 25. Bluebirds and Robins appeared.
" 27. Blackbirds appeared.
April 7. Frogs heard.
" 19. Larks appeared.
May 6. Barn Swallows and Wrens appeared.
" 9. Red Plumtrees in blossom. Orioles appeared.
" 10. Bank Swallows and Eaves Swallows appeared.
" 10. Bobalinks came.
May 11. Whippoorwills heard.
" 12. Martin-birds and Bumblebees came.
" 14. Brown Thrushes and Catbirds came.
" 15. Tree-toads heard.
" 18. Appletrees in blossom.
" 19. Hummingbirds came. Tulips in blossom.
" 20. Lilacs in blossom.
" 21. Cuckoos heard.
" 27. Yellowbirds appeared.

3. Memoranda of the Appearance of Auroras, Solar and Lunar Halos, Parhelia, &c. at Newbury, Vermont, 1864.

Febr. 9. Brilliant Aurora, 9 to 11 p.m.
" 10. Parhelion west of the Sun, 3½ p.m.
" 10. Bright Aurora, 8 to 10 p.m.
" 17. Lunar Halo, 8 p.m.
March 1. Snow-storm commenced at 9 p.m. This storm commenced at New-York city at 9 a.m. same day.
" 4. Pale Aurora low in the north.
" 5. Rain-storm commenced at 7 p.m., and rained till 9½ a.m. of the 7th; then rained and snowed till evening. Wind southwest the 5th, southeast the 6th, northwest the 7th.
" 15. One Parhelion north of the Sun, and one south of it: noon.
" 28. Slight Aurora, 10 p.m.
April 3. Solar Halo, 5½ p.m.
" 8. Aurora with small streamers, 9 p.m.; low in the north.
" 9. Pale Aurora low in the north, 9 p.m.
" 22. Lunar Halo, 10 p.m.
" 24. Brilliant Aurora, 9 to 11 p.m.
May 2. Solar Halo, 11 to 12 a.m.
" 6. Slight Aurora, 9 p.m.
" 10. First Thunder-shower, 4 to 5 p.m.
August 7. Pale Aurora low in the north, 9 p.m.
" 16. Rainbow in west, 8 a.m.
" 19. Brilliant Aurora with streamers, 9 p.m.
" 26. Top of Moose hillock white with snow.
" 27. First frost this morning.
Octo. 20. Bright Aurora low in north, 9 p.m.
" 21. Bright Aurora low in north, 9 p.m.
Nov. 19. Pale Aurora, evening.
Dec. 20. Pale Aurora low in north, 9 p.m.
" 21. At one o'clock p.m. a furious northeast snow-storm commenced, and continued to the morning of the 22d: twelve inches of snow fell.
" 23. Mercury 20° below zero at eight o'clock a.m.

# III. ANNUAL ABSTRACTS FOR 1863 & 1864: UNION HALL ACADEMY, JAMAICA, L.I.

BY JOHN N. BRINCKERHOFF.

| 1863. | Jan. | Feb. | March | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| THERMOMETER. Mean Temp. 1st half .. | 37.15 | 31.28 | 27.25 | 40.60 | 49.54 | 66.33 | 72.32 | 79.29 | 68.48 | 53.54 | 44.55 | 34.81 | |
| .. 2d half .. | 33.30 | 31.87 | 34.76 | 51.35 | 58.27 | 68.70 | 74.95 | 70.64 | 54.48 | 49.64 | 42.54 | 31.62 | |
| Monthly mean..... | 35.22 | 31.57 | 31.00 | 45.97 | 53.95 | 67.51 | 73.63 | 74.96 | 61.48 | 51.59 | 43.54 | 33.21 | 50.30 Annual mean. |
| Highest degree..... | 50° | 52° | 49° | 70° | 90° | 95° | 84° | 96° | 84° | 69° | 64° | 53° | 96° Highest degree during the year. |
| Lowest degree..... | 12° | 4° | 12° | 28° | 39° | 26° | 60° | 50° | 40° | 32° | 24° | 10° | 4° Lowest degree during the year. |
| Range ..... | 38° | 48° | 37° | 42° | 51° | 69° | 24° | 46° | 44° | 37° | 40° | 43° | 69° Greatest monthly range. |
| Warmest day..... | 15 | 19 | 25 | 19 | 20 | 15 | 22 | 3 | 2 | 4 | 13 | 13 | August 3 : Warmest day in the year. |
| Coldest day..... | 18 | 4 | 13 | 7 | 5 | 6 | 1 | 29 | 28 | 25 | 30 | 23 | February 4 : Coldest day in the year. |
| WINDS. N .... | ½ | 2 | 1½ | 2 | ½ | 1 | 2 | 1 | 2 | ½ | 2 | 1½ | 16½ days north wind in the year. |
| NE .... | 8 | 6½ | 8½ | 5½ | 5 | 0 | 1½ | 1½ | ½ | 0 | 1½ | 1 | 39½ .. northeast .. |
| E .... | 2½ | 1 | 1½ | 2 | 1 | ½ | ½ | 0 | 0 | ½ | 2½ | 3½ | 15½ .. east .. |
| SE .... | 3 | 2½ | 3 | 3 | 7 | 11 | 11½ | 9 | 10½ | 9 | 4½ | 1 | 75 .. southeast .. |
| S .... | 1½ | 1 | 1 | 0 | 3 | 2½ | 5½ | 5½ | 1 | ½ | 0 | 1½ | 23 .. south .. |
| SW .... | 3 | 2½ | 2 | 6½ | 7½ | 2 | 8 | 5½ | 2 | 2 | 1½ | 3½ | 46 .. southwest .. |
| W .... | 2½ | 3 | 1½ | 2 | 4 | 7½ | 1½ | 6 | 11½ | 14 | 12 | 11½ | 77½ .. west .. |
| NW .... | 10 | 9½ | 12 | 9 | 3 | 5½ | ½ | 2½ | 2½ | 4½ | 6 | 7½ | 72 .. northwest .. |
| Total of each month..... | 31 | 28 | 31 | 30 | 31 | 30 | 31 | 31 | 31 | 31 | 30 | 31 | 365 Total. |
| Prevailing wind..... | NW | NW | NW | NW | SW | SE | SE | SE | W | W | W | W | West, prevailing wind of the year. |
| WEATHER { Clear .... | 13 | 12½ | 16½ | 16½ | 20½ | 20 | 18 | 23 | 22½ | 22½ | 16½ | 21½ | 223 clear days in the year. |
| Cloudy.... | 18 | 15½ | 14½ | 13½ | 10½ | 10 | 13 | 8 | 7½ | 8½ | 13½ | 9½ | 142 cloudy days in the year. |
| Total ..... | 31 | 28 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 365 Total. |
| Rain ..... | 6 | 7 | 8 | 6 | 6 | 7 | 9 | 7 | 3 | 5 | 10 | 6 | 80 days on which rain fell. |
| Snow..... | 2 | 3 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 13 days on which snow fell. |
| Rain-gage ... | 2.10 | 3.58 | 2.92 | 2.20 | 4.45 | 1.60 | 4.30 | 3.45 | 2.21 | 4.25 | 7.08 | 5.30 | 43.44 inches : Total fall of rain and snow. |

## Meteorological Abstract from Union Hall Academy (Concluded).

| 1861. | | Jan. | Feb. | March | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Thermometer. | Mean Temp. 1st half. | 25.24 | 35.51 | 32.86 | 43.35 | 61.18 | 64.34 | 63.33 | 87.24 | 68.88 | 51.78 | 40.75 | 35.79 | |
| | Mean Temp. 2d half. | 37.28 | 32.03 | 37.33 | 50.28 | 64.79 | 72.26 | 74.22 | 72.11 | 66.67 | 49.88 | 39.68 | 29.49 | |
| | Monthly mean | 31.26 | 33.78 | 35.09 | 46.81 | 62.98 | 62.29 | 68.77 | 79.67 | 67.77 | 50.83 | 40.26 | 32.64 | 51.51 Annual mean. |
| | Highest degree | 60° | 54° | 58° | 70° | 84° | 96° | 92° | 96° | 82° | 68° | 68° | 58° | 96° Highest degree during the year. |
| | Lowest degree | 9° | 2° | 20° | 32° | 41° | 50° | 52° | 58° | 46° | 30° | 20° | 10° | 2° Lowest degree during the year. |
| | Range | 51° | 52° | 38° | 40° | 43° | 46° | 40° | 38° | 36° | 38° | 48° | 48° | 52° Greatest monthly range. |
| | Warmest day | 28 | 24 | 12 | 21 | 21 | 25 | 31 | 12 | 4 | 7 | 30 | 2 | August 12 : Warmest day in the year. |
| | Coldest day | 2 | 16 | 3 | 5 | 3 | 2 | 4 | 31 | 30 | 14 | 24 | 23 | February 16 : Coldest day in the year. |
| Winds. | N | 1 | 0 | 0 | 2 | 0 | ½ | ½ | ½ | 2 | 3½ | 2½ | 1 | 13½ days north wind in the year. |
| | NE | 3 | 1½ | 5 | 13½ | 2½ | 1 | 3½ | 3½ | 7 | 2½ | 2 | 6 | 50½ .. northeast .. |
| | E | 3 | 2½ | 2½ | 3 | 5½ | 1½ | 3½ | 5½ | 2 | 4 | 3½ | 5½ | 42 .. east .. |
| | SE | 1 | 2½ | 1½ | 3 | 5½ | 2½ | 4½ | 3 | 4 | 1½ | 2½ | 2 | 33½ .. southeast .. |
| | S | 1 | 0 | ½ | 1½ | 5½ | 4 | 4½ | 6 | 0 | 1 | 1 | ½ | 25½ .. south .. |
| | SW | 2½ | 3½ | 6 | 1½ | 5½ | 9 | 1½ | 3½ | 2½ | 1 | 4½ | 3 | 43½ .. southwest .. |
| | W | 13 | 10½ | 9½ | 4 | 5½ | 7½ | 7½ | 5½ | 7½ | 11 | 10 | 7 | 98½ .. west .. |
| | NW | 6½ | 8½ | 6 | 1½ | 1½ | 4 | 5½ | 4 | 5 | 6½ | 4 | 6 | 59 .. northwest .. |
| Total of each month | | 31 | 29 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 366 Total. |
| Prevailing wind | | W | W | W | NE | E S W | SW | W | S | W | W | W | W | West, prevailing wind of the year. |
| Weather | Fair | 22 | 20 | 21 | 16½ | 17½ | 23½ | 29½ | 18½ | 20 | 21 | 19 | 10 | 238½ clear days in the year. |
| | Cloudy | 9 | 9 | 10 | 13½ | 13½ | 6½ | 1½ | 12½ | 10 | 10 | 11 | 21 | 127½ cloudy days in the year. |
| | Total | 31 | 29 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 366 Total. |
| | Rain | 4 | 3 | 7 | 8 | 12 | 4 | 4 | 5 | 9 | 5 | 11 | 13 | 85 days on which rain fell. |
| | Snow | 3 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 10 days on which snow fell. |
| | Rain-gage | 2.45 | 4.25 | 5.25 | 4.40 | 3.27 | 1.60 | 2.82 | 1.10 | 4.10 | 2.85 | 4.50 | 2.92 | 39.51 inches : Total fall of rain and snow. |

# IV. METEOROLOGICAL RESULTS FOR 1864, AND FOR 28 YEARS NOW ENDED : ROCHESTER, NEW-YORK.

BY CHESTER DEWEY, D.D.

Observations taken at 7 A.M., and at 2 and 9 P.M.

TABLE I : THERMOMETER.

| | | 1864. | | | | | | | 28 years. | |
|---|---|---|---|---|---|---|---|---|---|---|
| MONTHS. | | I. | II. | III. | IV. | V. | VI. | VII. | VIII. | IX. |
| Jan. | 1st half. | 18.38 | 25.72 | 34.33 | 1.33 | 39° | —4° | 60° | 25.92 | 25.51 |
| | 2d half. | 32.60 | | 44.00 | 18.00 | 56 | 9 | | 25.23 | |
| Feb. | .. | 30.17 | 28.46 | 39.00 | 10.33 | 43 | 8 | 56 | 24.24 | 25.70 |
| | .. | 26.87 | | 44.00 | 1.00 | 54 | —2 | | 27.19 | |
| March | .. | 34.04 | 31.95 | 45.67 | 27.67 | 57 | 20 | 50 | 30.14 | 32.30 |
| | .. | 29.98 | | 44.00 | 15.67 | 54 | 7 | | 34.36 | |
| April | .. | 42.20 | 43.18 | 46.67 | 37.33 | 54 | 32 | 36 | 40.97 | 43.94 |
| | .. | 44.18 | | 54.33 | 38.33 | 66 | 30 | | 46.94 | |
| May | .. | 54.00 | 58.93 | 68.00 | 40.33 | 81 | 37 | 44 | 52.99 | 56.30 |
| | .. | 63.54 | | 72.00 | 53.00 | 81 | 48 | | 59.05 | |
| June | .. | 59.56 | 67.12 | 71.33 | 49.00 | 82 | 45 | 48 | 63.13 | 66.04 |
| | .. | 74.69 | | 83.67 | 60.00 | 93 | 55 | | 68.99 | |
| July | .. | 72.91 | 73.50 | 79.67 | 64.67 | 92 | 60 | 33 | 70.25 | 70.65 |
| | .. | 74.04 | | 81.33 | 63.67 | 93 | 57 | | 71.04 | |
| Aug. | .. | 74.93 | 70.91 | 83.33 | 65.00 | 92 | 62 | 44 | 70.12 | 68.63 |
| | .. | 67.15 | | 77.33 | 55.67 | 85 | 48 | | 67.23 | |
| Sept. | .. | 60.87 | 59.29 | 67.33 | 56.67 | 79 | 59 | 38 | 63.83 | 60.37 |
| | .. | 57.71 | | 70.33 | 47.00 | 80 | 42 | | 56.88 | |
| Oct. | .. | 49.13 | 46.50 | 65.33 | 37.33 | 72 | 34 | 40 | 51.32 | 48.07 |
| | .. | 44.04 | | 49.00 | 40.00 | 54 | 32 | | 45.08 | |
| Nov. | .. | 39.51 | 38.54 | 64.67 | 30.00 | 68 | 33 | 48 | 41.22 | 38.04 |
| | .. | 37.58 | | 59.67 | 25.00 | 64 | 20 | | 34.86 | |
| Dec. | .. | 29.77 | 28.72 | 48.67 | 13.67 | 54 | 6 | 48 | 30.96 | 28.65 |
| | .. | 27.73 | | 41.67 | 10.67 | 47 | 7 | | 25.73 | |

Mean of year 1864, 47.73 : Range of year, 97°. Mean of 28 years, 47.02.

This Table shows us, Column I, the average temperature for each half-month, and, II, of each month ; III & IV, the highest and lowest mean of each half-month ; V & VI, the highest and lowest temperature of each half, and, VII, the range of temperature in the month ; VIII, the average mean temperature of each half-month, and, IX, of each month for 28 years.

From the table is deduced, 1, the mean temperature of the year, 47°.73, and the range of temperature in this year, 97° ; and, 2, the average mean temperature for 28 years, 47°.02 : the .02 is in excess from the decimals.

In the order *a*, *b*, *c* & *d*,

| (*a*). | | | | (*b*). |
|---|---|---|---|---|
| Annual mean temperature. | | Annual mean temperature. | | |
| 1837 | 45.72 | 1851 | 47.75 | |
| 8 | 45.10 | 2 | 47.09 | |
| 9 | 46.72 | 3 | 48.30 | |
| 1840 | 47.06 | 4 | 47.97 | |
| 1 | 46.36 | 5 | 46.76 | |
| 2 | 47.44 | 6 | 44.97 | |
| 3 | 44.70 | 7 | 45.94 | |
| 4 | 45.77 | 8 | 47.64 | |
| 5 | 47.01 | 9 | 47.32 | |
| 6 | 48.26 | 1860 | 47.58 | |
| 7 | 46.44 | 1 | 47.31 | |
| 8 | 47.94 | 2 | 47.18 | |
| 9 | 47.59 | 3 | 47.30 | 655.02 |
| 1850 | 47.97 | 1864 | 47.73 | 660.84 |
| | 655.02 | | 660.84 | 1315.86 for 28 years. |
| Mean 46.79 of 1st 14 years. | | Mean 47.20 of 2d 14 years. | | 47.00 mean. |

(*c*). The range of annual mean temperature is here seen to be from 44°.7 in 1843, to 48°.3 in 1853. The annual means, also, are only twice below 45°, and only twice above 48°.

(*d*). In the 28 years, the range has been, at the hours of observation, from 102° down to 20° below zero, or equal to 122°; and the same night, at 3 a.m. was 25° below.

To show, on a moment's inspection, *the relative temperature* of any month or half-month, the following Table has been made with much care. The mean temperature of any month or half-month in the 28 years is simply compared with the general average of that time at the bottom. Thus, the general mean of the first half of January 1837 is 25°.92, while the mean of that half in 1837 is 17°.02, or very cold; in 1856, is 15°.91, still colder; in 1857, is 17°.04, less severe; in 1858, is 32°.95, warm for the season; and in 1838, is 36°.67, very warm for this half of January. So we see that both halves of January 1856 and 1857 were far below their general means; and that the first half-months of February 1856 and 1857 were also very cold, while the first half of February 1850 was 34°.55, very warm for the season, and of 1853 was 35°.05, still warmer. Also the general mean of the first half of December was 30°.96, and of that half in 1861 was 37°.71, very warm for the season, as many may recollect; for the mean temperature of some of its days was above 55°, and one exceeded 60°.

TABLE II : Mean Temperature of each half-month and of each month, and the mean of the whole for 28 years, 1837 to 1864 inclusive.

| | JANUARY. | | | FEBRUARY. | | | MARCH. | | |
|---|---|---|---|---|---|---|---|---|---|
| YEAR. | 1st half. | 2d half. | Month. | 1st half. | 2d half. | Month. | 1st half. | 2d half. | Month. |
| 1837 | 17.02 | 23.31 | 20.16 | 21.64 | 24.45 | 23.04 | 26.36 | 32.89 | 29.62 |
| 1838 | 36.67 | 25.94 | 31.30 | 18.29 | 12.12 | 15 20 | 31.65 | 38.98 | 35.43 |
| 1839 | 32.02 | 18.60 | 25.31 | 20.22 | 35.00 | 27.61 | 28.71 | 35.96 | 32.33 |
| 1840 | 19.19 | 19.54 | 19.32 | 27.78 | 36.38 | 32.08 | 33.98 | 34.58 | 34.28 |
| 1841 | 25.85 | 28.12 | 27.02 | 19.62 | 27.14 | 23.38 | 23.82 | 33.63 | 28.83 |
| 1842 | 26.44 | 32.19 | 29.37 | 37.88 | 27.52 | 30.70 | 38.11 | 40.67 | 39.43 |
| 1843 | 29.69 | 33.22 | 31.38 | 16.88 | 17.22 | 17.05 | 20.29 | 23.62 | 22.02 |
| 1844 | 24.33 | 15.73 | 19.89 | 23.82 | 30.33 | 27.00 | 37.48 | 31.52 | 33.99 |
| 1845 | 28.15 | 25.70 | 26.89 | 17.48 | 36.99 | 27.24 | 35.40 | 39.23 | 37.38 |
| 1846 | 29.54 | 23.29 | 25.55 | 25.88 | 18.15 | 21.96 | 30.49 | 37.21 | 33.95 |
| 1847 | 27.67 | 20.31 | 23.87 | 25.93 | 22.95 | 24.44 | 25.20 | 30.00 | 27.68 |
| 1848 | 27.60 | 31.87 | 29.81 | 23.26 | 28.93 | 26.20 | 24.78 | 38.31 | 31.76 |
| 1849 | 18.67 | 25.69 | 22.29 | 20.94 | 23.35 | 22.15 | 31.58 | 37.81 | 35.12 |
| 1850 | 27.36 | 34.82 | 30.09 | 34.55 | 30.07 | 32.31 | 32.73 | 30.56 | 31.61 |
| 1851 | 30.06 | 25 65 | 27.79 | 26.60 | 36.33 | 31.46 | 32.20 | 41.13 | 36.81 |
| 1852 | 21.60 | 19.83 | 20.69 | 30.26 | 23.89 | 26.96 | 32.84 | 30.96 | 31.87 |
| 1853 | 29.69 | 22.17 | 25.86 | 35.05 | 27.25 | 31.15 | 30.53 | 37.16 | 33.95 |
| 1854 | 27.74 | 23.12 | 25.86 | 24.07 | 24.05 | 24.06 | 40.17 | 27.37 | 33.21 |
| 1855 | 32.22 | 23.25 | 27.59 | 14.79 | 20.86 | 17.82 | 30.47 | 29.90 | 30.17 |
| 1856 | 15.91 | 17.15 | 16.55 | 13.53 | 22.67 | 17.94 | 19.33 | 28.83 | 24.23 |
| 1857 | 17.04 | 13.00 | 14.96 | 29.12 | 38.02 | 33.57 | 22.07 | 37.48 | 30.02 |
| 1858 | 32.95 | 30.17 | 31.84 | 22.52 | 19.36 | 20.94 | 22.93 | 40.29 | 31.89 |
| 1859 | 25.67 | 30.87 | 28.35 | 24.37 | 35.64 | 30.00 | 37.02 | 41.44 | 39.30 |
| 1860 | 24.69 | 30.69 | 27.80 | 22.67 | 30.12 | 26.50 | 35.22 | 38.21 | 36.76 |
| 1861 | 22.36 | 24.65 | 23.51 | 27.05 | 32.10 | 29.57 | 30.98 | 31.56 | 31.28 |
| 1862 | 22.89 | 26.52 | 24.76 | 24.83 | 24.67 | 24.75 | 30.64 | 31.52 | 31.10 |
| 1863 | 33.33 | 28.35 | 30.76 | 23.36 | 28.88 | 26.12 | 25.02 | 31.35 | 28.29 |
| 1864 | 18.38 | 32.60 | 25.72 | 30.17 | 26.87 | 28.46 | 34.04 | 29.98 | 31.95 |
| Means | 25.92 | 25.23 | 25.51 | 24.24 | 27.19 | 25.70 | 30.14 | 34.36 | 32.30 |

| | APRIL. | | | MAY. | | | JUNE. | | |
|---|---|---|---|---|---|---|---|---|---|
| 1837 | 39.64 | 43.37 | 41.50 | 54.27 | 55.06 | 54.68 | 66.64 | 64.84 | 65.74 |
| 1838 | 37.40 | 37.73 | 37.56 | 48.40 | 54.13 | 52.39 | 66.54 | 70.71 | 68.62 |
| 1839 | 49.04 | 50.12 | 49.58 | 52.96 | 56.13 | 54.54 | 57.89 | 61.29 | 59.59 |
| 1840 | 42.86 | 54.71 | 48.78 | 52.51 | 65.87 | 59.37 | 62.98 | 67.02 | 65.00 |
| 1841 | 35.24 | 45.15 | 40.20 | 44.98 | 63.04 | 54.30 | 69.55 | 69.51 | 69.53 |
| 1842 | 43.64 | 49.64 | 46.79 | 51.11 | 56.29 | 53.85 | 58.82 | 65.69 | 62.25 |
| 1843 | 39.88 | 49.42 | 44.65 | 54.69 | 52.99 | 53.82 | 56·13 | 69.27 | 62.70 |
| 1844 | 52.98 | 52.89 | 52.93 | 57.35 | 60.56 | 59.01 | 60.22 | 68.04 | 64.13 |
| 1845 | 38.13 | 54.46 | 46.29 | 55.55 | 51.75 | 53.66 | 67.12 | 63.92 | 65.02 |
| 1846 | 41.40 | 52.93 | 47.16 | 56.97 | 64.42 | 60.82 | 64.82 | 67.91 | 66.37 |
| 1847 | 40.69 | 41.62 | 41.15 | 55.98 | 62.45 | 59.32 | 60.98 | 66.44 | 63.71 |
| 1848 | 43.44 | 43.42 | 43.43 | 56.04 | 65.08 | 60.71 | 62.91 | 73.24 | 68.02 |
| 1849 | 43.26 | 43.33 | 43.80 | 48.69 | 58.46 | 53.73 | 64.47 | 73.26 | 68.86 |
| 1850 | 37.42 | 47 76 | 42.59 | 49.75 | 52.73 | 51.28 | 67.07 | 72.04 | 69.56 |
| 1851 | 41.36 | 46.31 | 43.83 | 54.35 | 61.75 | 58 27 | 60.56 | 70.64 | 65.60 |
| 1852 | 36.58 | 42.53 | 39.55 | 56.02 | 57.73 | 56.90 | 63.78 | 69.07 | 66.42 |
| 1853 | 39.27 | 48.13 | 43.70 | 52.46 | 58.83 | 55.75 | 70.62 | 73.20 | 71.91 |
| 1854 | 39.13 | 45.60 | 42.36 | 55.60 | 60.50 | 58.13 | 65.16 | 71.71 | 68.43 |
| 1855 | 37.31 | 53.02 | 45.17 | 53.22 | 59.82 | 56.66 | 59.11 | 68.16 | 63.63 |
| 1856 | 40.51 | 51.89 | 46.20 | 52.44 | 56.85 | 54.72 | 64.76 | 73.28 | 69.02 |
| 1857 | 37.33 | 39.23 | 38.28 | 47.64 | 59.27 | 53.62 | 60.93 | 66.56 | 63.74 |
| 1858 | 45.75 | 44.11 | 44.93 | 52.93 | 54.71 | 53.88 | 63.73 | 77.73 | 70.73 |
| 1859 | 40.93 | 42.13 | 41.03 | 59.71 | 61.83 | 60.81 | 59.55 | 67.31 | 63.43 |
| 1860 | 42.07 | 45.00 | 43.53 | 61.44 | 62.08 | 61.77 | 63.51 | 69.11 | 66.31 |
| 1861 | 42.18 | 48.91 | 45.54 | 49.20 | 54.35 | 51.86 | 66.89 | 65.95 | 66.42 |
| 1862 | 39.64 | 47.27 | 43.45 | 52.60 | 58.73 | 55.76 | 60.67 | 64.67 | 62.67 |
| 1863 | 37.95 | 48.47 | 43.21 | 50.85 | 64.63 | 57.96 | 62.69 | 66.47 | 64.58 |
| 1864 | 42.20 | 44.18 | 43.18 | 54.00 | 63.54 | 58.93 | 59.56 | 74.69 | 67.12 |
| Means | 40.97 | 46.94 | 43.94 | 52.99 | 59.05 | 56.30 | 63.13 | 68.99 | 66.04 |

TABLE II (Concluded).

| | JULY. | | | AUGUST. | | | SEPTEMBER. | | |
|---|---|---|---|---|---|---|---|---|---|
| YEAR. | 1st half. | 2d half. | Month. | 1st half. | 2d half. | Month. | 1st half. | 2d half. | Month. |
| 1837 | 68.24 | 68.85 | 68.55 | 70.22 | 65.31 | 67.69 | 61.60 | 57.89 | 59.74 |
| 1838 | 74.49 | 71.04 | 72.74 | 69.31 | 67.46 | 68.64 | 60.40 | 58.71 | 59.55 |
| 1839 | 67.53 | 73.08 | 70.30 | 64.34 | 66.42 | 65.65 | 62.34 | 55.19 | 58.76 |
| 1840 | 69.07 | 70.40 | 69.75 | 65.89 | 71.19 | 68.62 | 60.51 | 55.09 | 57.80 |
| 1841 | 67.40 | 69.49 | 68.63 | 68.70 | 68.85 | 68.81 | 67.60 | 59.73 | 63.67 |
| 1842 | 66.46 | 71.23 | 68.96 | 65.93 | 69.21 | 67.63 | 63.09 | 53.13 | 58.11 |
| 1843 | 66.69 | 69.04 | 67.91 | 68.95 | 68.71 | 68.89 | 62.24 | 60.22 | 61.23 |
| 1844 | 68.69 | 68.89 | 68.79 | 66.93 | 64.21 | 65.53 | 65.60 | 54.94 | 60.27 |
| 1845 | 71.07 | 69.37 | 70.19 | 69.42 | 70.46 | 69.95 | 60.90 | 56.00 | 58.45 |
| 1846 | 70.75 | 70.67 | 70.70 | 74.24 | 67.54 | 70.78 | 72.07 | 58.71 | 65.39 |
| 1847 | 71.53 | 70.81 | 71.16 | 68.98 | 65.79 | 67.73 | 61.16 | 55.89 | 58.52 |
| 1848 | 68.84 | 71.77 | 70.39 | 72.13 | 69.60 | 70.85 | 62.20 | 52.42 | 57.31 |
| 1849 | 71.16 | 71.71 | 71.44 | 67.67 | 71.50 | 69.06 | 63.44 | 59.12 | 61.38 |
| 1850 | 73.69 | 71.79 | 72.71 | 71.78 | 67.29 | 69.46 | 62.15 | 58.73 | 60.44 |
| 1851 | 67.85 | 72 58 | 70.29 | 69.25 | 66.27 | 67.72 | 68.80 | 55.11 | 61.96 |
| 1852 | 72.90 | 70.64 | 71.69 | 66.20 | 69.95 | 68.14 | 65.53 | 55.36 | 60.44 |
| 1853 | 69.42 | 69.33 | 69.38 | 76.11 | 66.33 | 71.06 | 66.47 | 58.42 | 62.45 |
| 1854 | 72.55 | 76.90 | 74.80 | 70.02 | 71.31 | 70.69 | 68.24 | 58.29 | 63.26 |
| 1855 | 70.20 | 73.77 | 72.04 | 71.02 | 65.21 | 68.02 | 66.98 | 58.95 | 62.96 |
| 1856 | 70.84 | 76.04 | 73.52 | 69.80 | 63.30 | 66.44 | 65.13 | 54.76 | 59.94 |
| 1857 | 70.91 | 73.35 | 72.16 | 71.09 | 63.75 | 67.30 | 67.20 | 54.64 | 60.92 |
| 1858 | 73.22 | 69.37 | 71.21 | 73.47 | 64.37 | 68.67 | 66.27 | 56.20 | 61.23 |
| 1859 | 70.38 | 69.54 | 69.94 | 72.31 | 65.06 | 68.59 | 57.09 | 59.44 | 58.26 |
| 1860 | 65.71 | 67.75 | 66.76 | 67.93 | 67.81 | 67.87 | 60.02 | 54.87 | 57.44 |
| 1861 | 68.00 | 69.27 | 68.66 | 68.29 | 66.94 | 67.59 | 63.73 | 58.07 | 60.90 |
| 1862 | 71.80 | 69.31 | 70.52 | 72.89 | 66.73 | 69.71 | 64.25 | 60.60 | 62.42 |
| 1863 | 74.22 | 68.96 | 71.51 | 74.98 | 64.65 | 69.67 | 61.51 | 54.42 | 57.96 |
| 1864 | 72.91 | 74.04 | 73.50 | 74.93 | 67.15 | 70.92 | 60.87 | 57.71 | 59.29 |
| Means | 70.25 | 71.04 | 70.65 | 70.12 | 67.23 | 68.63 | 63.83 | 56.88 | 60.37 |

| | OCTOBER. | | | NOVEMBER. | | | DECEMBER. | | |
|---|---|---|---|---|---|---|---|---|---|
| 1837 | 47.22 | 46.69 | 46.95 | 42.91 | 40.51 | 41.71 | 30.86 | 27.52 | 29.37 |
| 1838 | 50.73 | 39.12 | 44.74 | 38.29 | 27.04 | 32.66 | 26.53 | 18.83 | 22.56 |
| 1839 | 54.84 | 52.62 | 53.70 | 37.89 | 30.76 | 34.32 | 34.75 | 23.33 | 28.86 |
| 1840 | 53.33 | 42.15 | 47.56 | 42.29 | 31.86 | 37.07 | 29.33 | 21.21 | 25.14 |
| 1841 | 48.18 | 41.60 | 44.79 | 41.96 | 31.96 | 36.96 | 37.44 | 24.04 | 30.53 |
| 1842 | 52.68 | 45.91 | 49.19 | 42.19 | 28.22 | 35.20 | 29.63 | 25.98 | 27.74 |
| 1843 | 48.64 | 38.52 | 43.42 | 30.80 | 35.11 | 32.95 | 28.09 | 32.58 | 30.44 |
| 1844 | 47.13 | 40.36 | 43.63 | 39.20 | 30.46 | 34.83 | 29.95 | 26.23 | 28.03 |
| 1845 | 52.53 | 44.98 | 48.63 | 40.82 | 34.40 | 37.61 | 22.89 | 22.64 | 22.76 |
| 1846 | 52.67 | 39.94 | 46.06 | 47.31 | 36.35 | 41.83 | 28.84 | 28.31 | 28.57 |
| 1847 | 50.53 | 44.21 | 47.27 | 45.37 | 35.91 | 40.64 | 37.31 | 27.29 | 32.34 |
| 1848 | 46.72 | 47.06 | 46.90 | 35.42 | 36.22 | 35.82 | 37.22 | 31.16 | 34.10 |
| 1849 | 49.44 | 48.06 | 48.73 | 50.04 | 42.60 | 46.32 | 29.71 | 26.94 | 28.28 |
| 1850 | 49.33 | 47.02 | 48.14 | 45.84 | 37.84 | 41.84 | 29.04 | 21.85 | 25.66 |
| 1851 | 55.62 | 46.25 | 50.78 | 35.36 | 33.96 | 34.66 | 26.87 | 20.65 | 23.66 |
| 1852 | 56.38 | 47.79 | 51.95 | 39.31 | 33.11 | 36.21 | 37.02 | 31.75 | 34.30 |
| 1853 | 46.58 | 45.51 | 46.02 | 41.16 | 42.20 | 41.68 | 32.09 | 22.75 | 27.27 |
| 1854 | 55.67 | 49.77 | 52.52 | 39.38 | 35.84 | 37.58 | 25.56 | 23.79 | 24.71 |
| 1855 | 50.20 | 44.15 | 47.08 | 46.87 | 34.07 | 40.47 | 33.82 | 24.97 | 29.26 |
| 1856 | 57.79 | 45.04 | 48.31 | 40.93 | 36.44 | 38.69 | 28.20 | 20.12 | 24.03 |
| 1857 | 52.07 | 42.61 | 47.18 | 42.53 | 29.60 | 36.07 | 35.44 | 31.21 | 33.26 |
| 1858 | 51.22 | 50.35 | 50.77 | 37.98 | 31.93 | 34.96 | 32.09 | 27.83 | 29.89 |
| 1859 | 51.25 | 38.71 | 44.77 | 42.40 | 39.11 | 40.75 | 25.07 | 20.40 | 22.66 |
| 1860 | 48.78 | 52.08 | 50.49 | 44.91 | 34.38 | 39.64 | 25.31 | 26.85 | 26.11 |
| 1861 | 55.33 | 47.33 | 51.04 | 41.22 | 33.84 | 37.53 | 37.71 | 28.77 | 33.10 |
| 1862 | 58.04 | 44.31 | 50.96 | 39.38 | 36.91 | 38.14 | 33.60 | 30.37 | 31.93 |
| 1863 | 50.89 | 46.29 | 48.52 | 42.75 | 37.87 | 40.31 | 32.31 | 25.40 | 28.74 |
| 1864 | 49.13 | 44.04 | 46.50 | 39.51 | 37.58 | 38.54 | 29.77 | 27.73 | 28.72 |
| Means | 51.32 | 45.08 | 48.07 | 41.22 | 34.86 | 38.04 | 30.96 | 25.73 | 28.65 |

The mean annual temperature of

| | Latitude. | Feet. | | Years. | Mean. |
|---|---|---|---|---|---|
| Rochester, | 43° 07′ | 516 | above the sea. | 28 | 47°.02 |
| Albany | 42 31 | 130 | " | 24 | 48.43 |
| Potsdam | 44 40 | 394 | " | 23 | 43.61 |
| City of New-York | 40 42 | 22 | " | 32 | 51.54 |
| London, England | 51 31 | | " | 53 | 48.50 |
| Washington, D.C. | 38 53 | 50 | " | 12 | 56.14 |
| Fort Sullivan, Maine | 44 54 | 70 | " | 70 | 48.02 |
| State of New-York, from all the two means | | | | 25 | 46.74 to 46.92 |

Other results follow.

TABLE III : Range of Half-monthly and Monthly Means for the 28 years.

| Month. | First half, and its mean of 28 years. | | Second half, and mean of 28 years. | | Month, and mean of 28 years. | |
|---|---|---|---|---|---|---|
| | ° | ° | ° | ° | ° | ° |
| Jan. | 15.9 to 36.7=20.8 | 25.92 | 13.0 to 34.8=21.8 | 25.23 | 15.0 to 31.8=16.8 | 25.5 |
| Feb. | 13.5 to 35.1=21.6 | 24.24 | 12.1 to 38.0=25.9 | 27.19 | 15.2 to 33.6=18.4 | 25.7 |
| Mar. | 19.3 to 40.2=20.9 | 30.14 | 23.6 to 41.4=17.8 | 34.36 | 22.0 to 39.4=17.4 | 32.3 |
| April | 35.2 to 53.0=17.8 | 40.97 | 37.7 to 54.7=17.0 | 46.94 | 37.6 to 52.9=15.3 | 43.9 |
| May | 45.0 to 61.4=16.4 | 53.00 | 51.7 to 65.9=14.2 | 59.05 | 51.3 to 61.8= 9.5 | 56.3 |
| June | 56.1 to 70.6=14.5 | 63.13 | 61.3 to 77.7=15.4 | 69.00 | 59.6 to 71.9=12.3 | 66.0 |
| July | 65.7 to 74.5= 8.8 | 70.25 | 67.7 to 76.9= 9.2 | 71.04 | 66.7 to 74.8= 8.1 | 70.6 |
| Aug. | 64.3 to 76.1=11.8 | 70.12 | 63.3 to 71.5= 8.2 | 67.23 | 65.5 to 71.1= 5.6 | 68.6 |
| Sept. | 57.1 to 72.1=15.0 | 63.83 | 52.4 to 60.6= 8.2 | 56.88 | 57.3 to 65.4= 8.1 | 60.4 |
| Oct. | 46.6 to 58.0=11.4 | 51.32 | 38.5 to 52.6=14.1 | 45.08 | 43.4 to 53.7=10.3 | 48.1 |
| Nov. | 30.8 to 50.0=19.2 | 41.22 | 27.0 to 42.6=15.6 | 34.86 | 32.7 to 46.3=13.6 | 38.0 |
| Dec. | 22.9 to 37.7=14.8 | 39.96 | 18.8 to 32.6=13.8 | 25.73 | 22.5 to 34.3=11.8 | 28.6 |
| | Mean | 47.09 | Mean | 46.88 | Mean | 47.0 |

The mean of the monthly means of the first half of the months, 47°.09, a little exceeds, and of the second half, 46°.88, falls a little below, the mean of the months, 47°.0. It is curious that the mean temperature of the two halves of the months differs so very little from the mean of the months.

In this Table, the difference in the means appears greater in the colder months than in the warmer months. This is chiefly owing to the fact that in the colder months the morning observations, and in part the evening observations also, are made at an hour nearer to the colder or coldest part of the day. Then, too, it is not consecutive temperature that is shown in these highest and lowest means of half-months in these 28 years. Thus we see, looking at the table for the first half of January, that the range of these half-monthly means is from 15°.9 to 36°.7, or 20°.8. Yet we may see in Table II that 15°.9 was the mean of this first half of January 1836, and 36°.7 belonged to 1838. So also the lowest and highest means of the means of the first half of July in the 28 years belonged to different years, 65°.7 in Table III to 1860, and 74°.5 to 1838; and here the range of the highest and lowest is only 8°.8.

This Table shows that the temperature of July is more equable than in any other month : the mean heat of the first half of July is 70°.25, and of the last half is 71°.04 ; or the means of the two halves for 28 years differ only four-fifths of a degree. August is the next month for equableness of temperature, and June is next to that.

The greatest difference in the means in Table III occurs in the last half of February ; 12°.1 in 1838 being excessively low, and 38°.0 in 1857 being the other great extreme for the season.

TABLE IV : Amount of Variation of extreme cold in the winter months, and in March of each year.

| DATE. | Zero or below. | Below all day. | Times below each month. | DATE. | Zero or below. | Below all day. | Times below each month. |
|---|---|---|---|---|---|---|---|
| 1837 January .. 2 | — 4° | d | | 1852 January .. 8 | — 2° | | |
| .. 3 | — 3 | | 4 | .. 20 | — 8 | | 2 |
| February . 13 | — 2 | | | 1853 January .. 26 | 0 | | 1 |
| .. 18 | — 4 | | 2 | 1854 December. 19 | — 5 | | |
| 1838 March ... 2 | — 3 | | | .. 20 | — 3 | | 2 |
| .. 3 | — 1 | | 2 | 1855 February . 6 | —20 | d | |
| 1839 January .. 1 | — 1 | | | .. 7 | —20 | | 4 |
| .. 23 | — 4 | | | 1856 January .. 8 | — 2 | | |
| .. 24 | — 2 | d | 5 | .. 9 | — 8 | d | |
| February . 1 | 0 | | 1 | .. 26 | 0 | | 5 |
| 1840 January .. 3 | — 3 | | | February . 3 | — 3 | | |
| .. 4 | — 2 | | | .. 6 | — 1 | | |
| .. 16 | — 3 | | | .. 12 | 0 | | |
| .. 17 | — 2 | | 4 | .. 13 | — 6 | | |
| 1841 January .. 3 | — 1 | | | .. 14 | — 8 | | |
| .. 4 | — 4 | | | .. 15 | — 7 | | 8 |
| .. 18 | 0 | | 3 | March ... 9 | — 5 | | |
| February . 12 | 0 | | 1 | .. 10 | — 4 | | 3 |
| March ... 17 | — 5 | | 1 | 1857 January .. 16 | — 3 | | |
| 1842 Not below. | | | | .. 18 | —16 | d | |
| 1843 February . 17 | 0 | | | .. 22 | — 6 | | |
| .. 18 | — 3 | | 2 | .. 23 | — 8 | | |
| 1844 January .. 27 | — 1 | | | .. 24 | — 3 | | |
| .. 28 | 0 | | 2 | .. 26 | — 5 | | 10 |
| 1845 January .. 19 | — 1 | | 1 | 1858 February . 24 | — 2 | | 1 |
| 1846 February . 19 | — 3 | | 1 | 1859 January .. 9 | — 6 | | |
| 1847 February . 23 | — 2 | | | .. 10 | —10 | d | 4 |
| .. 24 | — 2 | | | December. 28 | 0 | | |
| .. 26 | — 1 | | 3 | .. 29 | — 6 | | 2 |
| 1848 January .. 10 | 0 | | | 1860 February . 3 | — 4 | | 1 |
| .. 11 | — 2 | | 2 | December. 15 | — 1 | | 1 |
| 1849 January .. 9 | —12 | | 1 | 1861 February . 7 | —12 | | |
| February . 13 | — 1 | | | .. 8 | —11 | | 2 |
| .. 16 | — 5 | | | 1862 Not below. | | | |
| .. 17 | — 5 | | 4 | 1863 February . 4 | — 6 | | 2 |
| 1850 December. 13 | — 1 | | | 1864 January .. 1 | — 1 | | |
| .. 31 | — 4 | | 2 | .. 2 | — 4 | | 2 |
| 1851 January .. 30 | — 6 | | | February . 17 | — 1 | | |
| December. 16 | — 2 | | | .. 18 | — 2 | | |
| .. 17 | — 1 | | | .. 19 | — 2 | | 3 |
| .. 26 | — 6 | | | | | | |
| .. 27 | — 6 | | 4 | | | | |

On this Table it is seen that the observations, for twenty-eight years, at or below zero, were in January 47, in February 35, in December 11, and in March 6, equal to 99 ; and the sum of the three daily observations in these four months is 3395, and the proportion is $= \frac{99}{3395} = \frac{1}{34}$ nearly : that the proportion for January is $\frac{47}{868} = \frac{1}{17}$, for February $\frac{35}{791} = \frac{1}{22}$, for December $\frac{11}{868} = \frac{1}{79}$, and for March is $\frac{6}{868} = \frac{1}{144}$. March is rarely down to zero : December, nearly twice as many times. Near a week of severe weather in January 1857 must give a low average ; and turning to a previous table, we see that the mean of the last of January 1857 was only thirteen degrees. The coldest was in 1855, or 20 degrees below zero at evening and next morning observations, in February, at the hours of observation ; and at $3\frac{3}{4}$ a.m., 25° below. The mark d means that the temperature was all day below zero : only six instances in the twenty-eight years.

The extremes of cold have been greatest in the last half of the years of observation. This may be only the common varying change, and to be the contrary in the next 28 years; but is more probably due to the clearing off the forests, and exposing the country to the more powerful action of cold. When these observations were begun in 1837, the original forest stood on a great part of the land now in the city limits of Rochester. The change has been very great and extensive over Western New-York, in the removal of the forests. NOAH WEBSTER long since showed, in his Essay on Climate, the operation of this change, viz. to make the heat of autumn later, and also the cold of spring later; to freeze the earth to greater depth, and delay the advance of heat later in the spring; and to produce greater changes in the temperature.

To obtain these tabular results has taken in 28 years, with the leap-years, 10227 days; three observations a day, 30881 observations; one-third the sum of each day, besides the means of each half month and whole month, and of each year, etc. No wonder so few apply their time and study to such a stupid round, yet essential to desired results.

## II. BAROMETER AND RAIN-GAGE.

IN the following Table are given the monthly average height, the highest and lowest mean, the highest and lowest observation, and the range in the month, all for 27 years; the water fallen in the month, and the monthly average for 28 years.

TABLE V.

| MONTHS. | Mean. | Highest Mean. | Least Mean. | Highest. | Lowest. | Range. | Water. | Average 28 years |
|---|---|---|---|---|---|---|---|---|
| January .. | 29.39 | 29.76 | 28.81 | 29.85 | 28.61 | 1.24 | 2.91 | 2.077 |
| February . | 29.29 | 29.76 | 28.84 | 29.85 | 28.76 | 1.09 | 1.18 | 2.030 |
| March .... | 29.37 | 29.72 | 28.81 | 29.77 | 28.74 | 1.03 | 3.44 | 2.077 |
| April .... | 29.41 | 29.69 | 29.14 | 29.73 | 29.12 | 0.61 | 3.23 | 2.441 |
| May..... | 29.32 | 29.63 | 29.09 | 29.63 | 29.05 | 0.58 | 6.54 | 2.987 |
| June ..... | 29.52 | 29.76 | 28.97 | 29.78 | 28.87 | 0.91 | 1.57 | 2.961 |
| July ..... | 29.51 | 29.73 | 29.28 | 29.74 | 29.24 | 0.70 | 1.66 | 3.325 |
| August ... | 29.42 | 29.67 | 29.03 | 29.68 | 29.01 | 0.67 | 5.49 | 2.816 |
| September | 29.45 | 29.79 | 29.14 | 29.82 | 29.08 | 0.74 | 1.83 | 3.237 |
| October ... | 29.33 | 29.66 | 28.86 | 29.67 | 28.78 | 0.80 | 5.51 | 3.253 |
| November. | 29.40 | 29.90 | 28.65 | 29.93 | 28.48 | 1.45 | 2.66 | 2.756 |
| December. | 29.31 | 29.98 | 28.83 | 30.04 | 28.64 | 1.40 | 2.67 | 2.510 |
| Mean.... | 29.39 | | | Range of year.... | | 1.56 | 38.69 | 32.470 |

From this Table are deduced, 1° The height of the barometer for the year, 29.39 inches, and its range in the year, 1.56 inch; 2° The water fallen in the year, 38.69 inches, and the average of water for 28 years, 32.47 inches in depth. The water of 1864 far exceeds the average.

The average height of barometer from 1838 to 1864 inclusive is 29.53 inches, with a range varying from 28.24 inches to 30.47, and making the range of 2.23 inches for the 27 years.

The water fallen has a higher interest, as is shown in the annual amounts.

TABLE VI.

| | | | | |
|---|---|---|---|---|
| 1837 | 30.61 inches. | 1851 | 24.970 inches. | |
| 8 | 25.46 | 2 | 35.065 | |
| 9 | 30.09 | 3 | 32.505 | |
| 1840 | 29.34 | 4 | 29.423 | |
| 1 | 30.53 | 5 | 33.913 | |
| 2 | 33.19 | 6 | 24.356 | |
| 3 | 30.21 | 7 | 42.591 | |
| 4 | 26.17 | 8 | 35.900 | |
| 5 | 34.44 | 9 | 31.300 | |
| 6 | 37.13 | 1860 | 29.779 | |
| 7 | 38.99 | 1 | 34.804 | Sums. |
| 8 | 32.03 | 2 | 37.590 | |
| 9 | 32.87 | 3 | 30.140 | 449.550 |
| 1850 | 38.49 | 1864 | 38.690 | 461.026 |
| | 449.55 | | 461.026 | 910.576 |
| | Mean, 32.11 for 14 years. | | Mean, 32.930 for 14 years. | Mean, 32.52 for 28 years; |

and exceeds that in Table V by only $\frac{5}{1000}$ths inch.

The range of water in these years is from 24.356 to 42 591 inches. In 1847 the water was 38.99, and in 1838 was 25.46. The water has not exceeded 39 inches but once in 28 years, and has been below 30 inches seven of the 28 years. The range is chiefly between 30 and 35 inches. Are we able to trace, to any definite results in vegetation, even the extreme annual differences of the water fallen?

## III. INTERESTING FACTS AND SPECIAL PHENOMENA.

The Year 1864 commenced with very severe weather in the Mississippi valley; the storm having begun on the last day of 1863, with a heavy rain, and snow, wind and cold towards evening. The Newyear was the coldest ever known at St.Louis; 19° to 24° below zero, and out of the city 25° below. The snowstorm was great all over the west: At Memphis, the cold was 10° below zero; at Cairo, 16° below; at Louisville, 9½° below, though rain was falling there at noon the day before at 47°; at Chicago, Newyear 22° below, in the suburbs 28° to 30° below, and below zero for seven days; at Bloomington, Illinois, Lat. 40½, 20° to 30° below zero, and for the first nine days the average at sunrise was 15° below; at Milwaukee, 30 to 40° below; at Madison, Wisconsin, 34° below, and 39° below on January 2, so that the mercury congealed at the Hervey Hospital; at St.Paul, much below zero, 38° below on the 2d, 30° below on the 3d, and for three days not warmer than 10° below, while at Fort Snelling, and more exposed places in that vicinity, the cold of the 2d was —50° by the spirit thermometer; at Minneapolis, Minnesota, Lat. 45, 30° below and not above 20° below all day, 28° below on the 2d, and for three days not higher than 10° below; at Cincinnati, 8 to 10° below zero, while the day before (December 31) there was rain all over that section, when at 8 p.m. the western blast brought the snow and lowered the temperature 54° in three hours; at Indianapolis, 20° below, and two days of snowstorm; at Buffalo, the storm began at 4 a.m. with rain, and at 9 p.m. the cold was 9° below zero, the violent wind driving the waters of Lake Erie over the lower part of the city, and destroying the railroad, a greater flood than for 16 years; at Rochester, the storm began early, thermometer 32° at 7 a.m., fell to 1° below zero at 9 p.m., and was 4° below next morning (the 2d); at Toronto, very cold on the 2d; at Os-

wego, heavy storm of snow, and cold 8° below zero on the 2d; at Albany, 4° below zero on the 2d at 7 a.m.; at Philadelphia, 8° below on the 2d; at Pittsfield, Massachusetts, 3° below zero on the 2d, and less than 10° above all day, while at Boston the same day the cold was only 3° to 10° above, with westerly gale; at New-York, 10°, and as the cold wind poured upon the harbor, the rising vapor was suddenly condensed into a thick sweeping fog, presenting over the waters the appearance of a vast smoking furnace.

This storm was less severe in Ohio, and still less farther eastward. The belt of greatest cold passed from north of west to south of east, so that the cold was greater in Pennsylvania than in Massachusetts. The weather was cold at Washington and on the Potomac. The storm moved, like all our great storms, from west to east widening southwards. In some places, cattle, fowls, sheep, etc. were frozen to death: some men also perished.

If we recur to the "Cold Period" of February 7 to 16, 1861, which affected New-England and this State and along the Atlantic slope, the storm of 1864 was less severe as a whole, and shorter in duration, but much heavier in Western New-York and in Michigan, than was the storm of the former date. Then at Rochester the thermometer marked 12° below zero on February 7, and 11° below next morning; at Grandville, Michigan, 25° below; and, to mention no more, at New-York city, 9° below zero, and the Bay presented more strikingly and awfully the appearance of an immense smoking furnace than in January 1864.

The violent wind in the above-mentioned storm of January 1 & 2, 1864, extended from west of the Mississippi river eastwards over this State, diminishing in force especially in New-England. Here (at Rochester) it continued two days, and at the west still longer, and greatly aggravated the storm. It was not so terrific as in some of the tornados which will be mentioned. On the 31st December, the signs of storm were strong here: wind southeast, and some snow fell; in Ohio and over the west, rain from the east prevailed, till the wind came in its fury from the west. Several instances of storms, less violent, but of great extent, have occurred in the year, with similar characters. They all sustain the conclusion of Espy on the course and progress of the storms in the United States.

The observations here for the twenty-eight years also show the great proportion of the general winds to be from the south of west; the storms beginning with an easterly or northeasterly, or sometimes southeasterly or southwesterly wind, and changing to some point between northwest and southwest, and thus the direction continues mostly from the south of west till another change. The direction of the clouds, and especially of the higher ones, shows this conclusively. The local and changeable winds of the surface are readily marked, and should be distinguished from those which even at the surface have the direction of the general wind. As this is a matter of great importance in observations, let it be illustrated in one or two cases*.

Thus in January 1864, of the 93 daily notices of the winds shown above by the clouds, 79 are between northwest and southwest, and only 13 from all other directions; and of these 13, even 10 are from the northeast, a general and not a local wind. In the column of surface winds, which differ from the direction as shown by the clouds, there are only 30 observations; showing that the surface and the cloud winds were in the same direction at 63 times of recording.

In the following February, of the 87 observations by the clouds, all but 5 were between northwest and southwest; and the surface winds differing

* Where there are two strata of clouds, which are shown by openings in the lower tier, the course of the upper is taken, and its direction is readily seen.

in direction from the cloud winds occurred only 32 times, while the surface and cloud winds were 55 times from the same point.

In the following August, of the 93 observations by the clouds, 83 were between northwest and southwest, and only 10 from different directions; and the surface winds from a different point than that of the clouds were 26.

January was colder than usual in England, France, &c. At Suez, Egypt, in latitude near 30°, a notice, dated January 26, 1864, states that ice was formed a few days before; a phenomenon previously unknown there.

February 17. Another cold period and storm from the west, and, like the preceding, colder at the west : Begun at Chicago on the 16th, snowstorm, 8° below zero; Muscatine, 7° below; Milwaukee, 10° below; Desmoines, 7° below; Springfield (Illinois), 2° below; at Rochester, on the 17th, 1° below, and 2° below on the 18th; on the 18th, reached Belfast, Maine, and the cold there was 15° below zero. The more severe weather in the valley of the Mississippi, beginning with the frost of August 1863, has continued in cold periods through 1864.

June 6. Snowstorm on Mount Washington, New-Hampshire; the snow 6 inches. June 11 & 12, some frost, slight.

The *Hot Period*, from June 16 to 26, was peculiar; not that the heat was so great in midday as often occurs in summer, but was great through the night as well as the day, so that this period was more like the hot weather of Virginia or Georgia. This hot period extended widely over the country, and was remarked at the south and west. At this city the heat at 2 p.m. ranged from 80° to 93°, the daily means varied from 71°.3 to 83°.7, and the average of the means was 78°.3. If the average exceeds 70°, the day is *warm;* if it exceeds 80°, *hot* or *very hot*, as the excess may be.

The hottest weather is commonly in the last half of June, in the month of July, or in the first half of August. For comparison, I give the following abstract (Table VII) for these three periods, of the highest mean, and the highest temperature at 2 p.m. (See next page).

In this Table, the variety and the uniformity of the hottest part of the summer are distinctly shown.

In the 28 years, the higheſt daily mean, or hotteſt day, was 85°.7, July 17, 1856; at 2 p.m., the mercury ſhowed 102°, July 16, 1845; and for very hot days, the range below this varies from 99 to 90°.

In the 28 years, the hotteſt day in June, 85°.0, was the 30th in 1855;
" " July, 85.7, " 17th in 1856;
" " Auguſt, 84.3, " 12th in 1853.

In June 1864, the hotteſt day, 83°.7, was the 25th;
July " " " 81.3, " 31ſt;
Auguſt " " " 83.3, " 1ſt.

The hottest day in 85 years at Yale College in New-Haven, Connecticut, was June 26, 1864, being 102° at 2 p.m. It would probably have been the hottest day at Rochester, had not a thunder-shower at 8 p.m. with its wind and rain and hail, cooled the air several degrees. Hot indeed was this sabbath, the 26th; and had the temperature kept up in the evening only to that of the night before, it would have given the highest mean or hottest day in the 28 years; for it would have been 87°, while that of July 1856 was only 85°.7.

The hottest day at Amherst College in 28 years was August 1, 1864.

TABLE VII.

| Year | Last half of June. | | Month of July. | | First half of August. | |
|---|---|---|---|---|---|---|
| 1837 | 77°.0 | 88° | 77°.0 | 91° | 79°.3 | 91° |
| 8 | 74.7 | 87 | 81.7 | 93 | 80.3 | 88 |
| 9 | 69.7 | 81 | 78.3 | 90 | 69.7 | 78 |
| 1840 | 74.7 | 86 | 81.7 | 94 | 73.0 | 82 |
| 1 | 81.3 | 91 | 82.3 | 96 | 74.0 | 89 |
| 2 | 74.0 | 83 | 78.6 | 92 | 71.3 | 82 |
| 3 | 77.7 | 89 | 81.0 | 91 | 76.6 | 89 |
| 4 | 76.3 | 88 | 76.7 | 90 | 74.3 | 86 |
| 5 | 72.3 | 82 | 83.3 | 102 | 76 3 | 90 |
| 6 | 77.0 | 88 | 83.3 | 94 | 82.7 | 96 |
| 7 | 78.7 | 91 | 84.3 | 96 | 76.7 | 84 |
| 8 | 82.0 | 98 | 77.7 | 92 | 80.7 | 92 |
| 9 | 81.0 | 94 | 84.0 | 95 | 75.0 | 90 |
| 1850 | 82.3 | 94 | 82.3 | 95 | 78.0 | 89 |
| 1 | 81.3 | 92 | 78.3 | 92 | 75.7 | 82 |
| 2 | 80.0 | 88 | 85.3 | 97 | 74.7 | 86 |
| 3 | 84.3 | 92 | 77.0 | 92 | 84.3 | 98 |
| 4 | 80.0 | 90 | 84.0 | 96 | 82.7 | 88 |
| 5 | 85.0 | 95 | 84.7 | 95 | 77.7 | 86 |
| 6 | 84.3 | 93 | 85.7 | 95 | 79.0 | 87 |
| 7 | 77.0 | 86 | 82.3 | 93 | 78.0 | 87 |
| 8 | 83.0 | 93 | 83.3 | 94 | 76.7 | 86 |
| 9 | 82.3 | 91 | 83 7 | 96 | 79.7 | 91 |
| 1860 | 76.0 | 88 | 77.3 | 88 | 81.0 | 93 |
| 1 | 73.3 | 82 | 82.3 | 91 | 80.0 | 88 |
| 2 | 77.3 | 90 | 82 0 | 92 | 80.7 | 90 |
| 3 | 78.0 | 88 | 79.3 | 91 | 80.3 | 90 |
| 1864 | 83.7 | 93 | 81.3 | 93 | 83.3 | 92 |
| | Mean 78.72 | | Mean 81.38 | | Mean 77.92 | |

The drouth of June and July was extensive and severe in this section: only 3.23 inches of water fell here in the whole of these two months. The drouth became injurious in the last half of June, and continued to the first day of August. Our rain began August 1 at 11 p.m.; and on the 4th, more than 2.00 inches of water had fallen. The effect of the drouth on grass and oats and potatos was destructive : of the first, the crop was greatly diminished; on the second, the effect was still more ruinous; and of the third, the early potato crop was almost an entire failure.

As August began with a heavy rain and poured down upon us 5.5 inches of water in the month, all vegetation seemed endued with unusual energy: the indian corn had advanced under the heat and drouth; the other crops at once improved, and that of autumnal potatos was abundant beyond all anticipation. Grass, for the fall feeding of cattle, came on plentifully. Of fruits, the peach crop was not large, but of excellent quality; that of apples, pears, berries, etc. exceeded the hopes of the people. So the Divine Providence wisely varies the course of the seasons, leads man thereby to feel his dependence, and finally crowns the year with his loving kindness and tender mercy. Who shall withhold gratitude, and praise, and worship!

The drouth was severe in England also, a little earlier in the season.

Aurora borealis of August 24. This beautiful light appeared every month in 1864, but in this one instance only was it very remarkable in our latitude. A brief notice is all that is necessary.

A thunder-shower had passed north of Rochester over Lake Ontario, and exhibited a blaze of lightning from 7 to 8 p.m.; and at 9 p.m. another thunder-shower showed its glories south and southeast of us, but the sky cleared again by 9½ p.m. A little later, a beautiful white band, or belt of aurora borealis appeared, lying across the heavens a little north of the

zenith, and parallel to a line or arc from north of west to south of east. It moved slowly southwards; passed the zenith a little after ten o'clock, a magnificent band of the whitest cloud, so white that it seemed uncommonly near to the earth, with slightly jagged edges, yet well defined and slightly waving in its motion; began to leave the eastern horizon by a slow movement westward at 11 p.m., and ere long extended only from the meridian to the western horizon: soon after this, the band disappeared. Over the whole northern canopy was spread the most brilliant white light for an hour, that I had ever conceived of: never had I seen the equal to this evening. My thoughts turned to the Mount of Transfiguration, where the Shekinah outspoke the glorious display of his material heavens. It was more brilliant than the similar aurora of April 9, 1863. The lightning and thunder of the evening were not the source of this magnificent auroral arch; for it appeared where no thunder-showers were in the same horizon, even if they existed at all at the time.

September 2, 3 & 4, were very hot at the west. At St.Louis the heat was 104° at noon of the 2d, 106° at noon of the 3d, and 100° on the 4th. The highest here was only 76°.

September 26, in the evening, three thunder-showers arose: one, far over Lake Ontario; another, south of Rochester; and the last, directly from the west over us. Incessant lightning was displayed, though at a distance too great for much of the thunder to reach us. The last shower showed us its lightnings in flashes on the sky before a cloud could be seen. We observed once more that this *heat-lightning*, as it is named, and which was seen for an hour before the clouds appeared, *was only the flashes of lightning from clouds below our horizon*, and no longer the misnamed heat-lightning, since it revealed the clouds as its source and place. At 10½ p.m. this shower was upon us with its wind, rain and hail, and the most terrific thunder that shook the earth and heavens and threatened destruction to our houses.

October 5. The awful tornado at Calcutta, sweeping the waters upon the city; so that 12000 lives were lost, 110 ships destroyed, and $40000000 of property destroyed.

November 3. Snow six inches deep at St.Louis, say their papers.

November 6. First hard frost this autumn.

November 9. A violent tornado passed over Chester, and some adjacent towns in Randolph county, Illinois; very narrow in its path, but destructive to buildings and fatal to some lives. Great gale on the Lakes, on the 11th and 12th of this month.

November 19. So far no indian summer, but to-day there is a slight indication of it; but this fine period came not this year. The usual meteors of the 13th did not appear, perhaps hidden by the clouds.

December 10. Canal frozen, two days after the cold period of the 8th, when the temperature was 6°.

December 21. Snowstorm, begun here at 8½ a.m.; at Pittsfield, Massachusetts, at 9 a.m.; at Boston, at 1 p.m.: a heavy storm, railroads blocked up and trains delayed. The snow here was about a foot deep, and sleighing good for a week.

The last half of December gave us the usual average heat of the period, though the mean temperature of the last day of 1864 was 21°.3, more than five degrees less than the general mean. The prospect was fair for a pleasant Newyear.

The health of the people of our State and country has been generally good throughout the year: another motive for gratitude to the Divine Author of our well-being.

## IV. VIEW OF STORMS AND THEIR LAWS.

THE remarks before made on the course of some storms may render a more general discussion appropriate.

By the diurnal and annual revolutions of the earth, the sun's action upon our atmosphere must be very unequal and changeable : other causes co-operate, and atmospheric currents are the result. The directions of these currents may be much modified by the configuration of land and ocean, the course of mountain ranges, and the situation of deserts ; but atmospheric stability must be impossible, though the irregularities may be confined within moderate limits. Perfect stability would be complete stagnation ; a result which Divine Providence designed to prevent by the operation of established laws, and which we all see to be fully accomplished.

Over a large part of the United States between the Atlantic and the Rocky mountains, and of Btitish America also east of the same range, the great storms and violent changes of weather begin with moderate wind from some point between northeast and southeast, and in some places southwest. Ultimately the course changes, and the strong westerly wind carries the storm to the east. The general or controlling current of our winds is thus shown to be from the west.

The same is shown by the direction of the clouds, and the more splendidly if there are two tiers of the higher clouds, and that too when there is no storm in action ; so that often, for some days after the storm, the high clouds come generally from some point a little south of west, whatever may be the surface current of the local winds. More than half the time the surface winds have the same, or nearly the same, direction as the clouds. This has been shown by thousands of observations over a great extent of country ; so that a width or zone of nearly thirty degrees of latitude, and extending to sixty degrees north latitude, is proved to have this general current of wind from the west or between northwest and southwest. These are great facts ; and the solution is clear. The observations collected by Professor COFFIN sustain his conclusion that this belt of westerly wind encircles the northern hemisphere. For the present, we need only the fact on this part of North America.

From the cause of the trade-winds within the tropics, their current sweeps across the Caribbean sea into the Gulf of Mexico, augmented by the wind from the northeast towards the equator, and by the wind from the southeast on the south side of the equator. Examination of the map of the northeast part of South America shows that coast to be most favorably situated for the easy ingress of the southern trade-wind to the Gulf of Mexico. This whole volume, below the mountain-tops, is arrested at the west by the high range which passes along the Isthmus west of the Caribbean sea and the Gulf of Mexico, and becomes the Rocky mountains of the north. This range is well situated to direct the winds from the Gulf considerably west of north towards British America, as its general course is from Lat. 20° N.

and Lon. 100° W. to Lat. 60° N. and Lon. 130° W. Ultimately this great body of atmosphere, moving from the southeast or south at the eastern base of the Rocky mountains, unites and mingles with the general current from the west, and together the whole passes eastward to the Atlantic, to supply the place of the atmosphere borne from the east into the Gulf of Mexico and over parts of the United States. In the southern part the current is from east to west, and in the northern from west to east, over the belt of land designated.

The wind from the ocean is commonly warmer than that coming from over land, and the former contains more vapor than the latter. Let equal volumes of two such currents intermingle, and cloud at once is formed : if both be nearly saturated with water, either rain or snow will be formed ; and if the change be extensive, one or the other will fall. When the vapor changes to water, a large quantity of heat is evolved, about one thousand degrees of heat from each pound of vapor. This heat or caloric expands the air which held the vapor, and it consequently rises through the colder air above, while the colder air falls, and thus increases the condensation of vapor into rain or snow. The storm, let it have commenced from any eastward point, meeting with the colder air and the condensation becoming more rapid, will have its direction changed from westward to eastward, and will be swept with the western current towards the Atlantic so long as the elements of storm continue their action. The barometer shows the atmosphere to be lightest at that point or line towards which the winds must blow on each side, so as to bring together the elements for the most powerful action, and produce the greatest changes of temperature.

The magnitude of the storm will evidently be greater or less according to the extent and power of the actions above indicated. In the great storm of January 1810, so extensive over the northern part of our country, the fall of the thermometer was from 60° at noon to 10 or 12° below zero at nine in the evening, and 20° or more below zero the next morning ; while the snow fell abundantly, and the wind was a tornado. So also in the storm at the beginning of the year 1864, when rain came from the eastward on the last day of December, both west and east of the Mississippi, the cold at St.Louis, and wide over that region, was 19 to 30° below zero, January 1 ; a change far greater at the west, than in the State of New-York and farther east. The snow and wind was like that of January 1810. In such cases, the higher and colder atmosphere seems to be precipitated upon the earth for the reason and in the way already mentioned. The great and sudden fall of temperature in many storms seems to require this transfer of atmosphere from a high and cold region to the earth's surface.

All considerable thunder-showers are a fair illustration of the statements above made. In our country their course is from west to east : they begin with a wind from the south or a little east of south, blowing the vapor and clouds northwards towards the great mass of thunder-heads which is capped by a close cirrose cloud, and is moving eastwards by the general upper current acting on the forming mass of the storm. The wind from the south

piles up and accumulates the elements of the incipient tempest : the lightnings fly and the thunders roll ; the warm and cold air are mingled, the temperature falls, and the rain, perhaps accompanied with hail, is poured upon the earth. The velocity of the storm is from twenty to thirty miles an hour ; and such a shower floods the country from west to east for many hundreds of miles, till its force is spent on the Atlantic, unless the disturbing elements fail at a shorter distance.

One of the most extensive thunder-storms of the present century occurred on the evening of January 17, 1817, and was probably confined to the Atlantic coast extending westward to the Alleganies. The wind had been from the northeast, attended with rain, but with no indications of lightning. At length changes in the wind occurred, and the following appearances were recorded :

At Bowdoin College in Brunswick, Maine, " in the earlier part of the evening", say at 7½ p.m., rain and snow fell, with flashes of lightning. At Boston, rain from the northeast. At Andover, Vermont, in the southeast part of the State, after 10 p.m., snow and lightning with thunder continued to midnight. At Wilmington, thirty miles further south in Vermont, snow fell rapidly, attended with brilliant lightning and heavy thunder, after 10 p.m. At Williams College, northwest part of Massachusetts, perhaps forty miles west-southwest of the last-named place, rain from the northeast had been falling till after 10 p.m., when there came one brilliant flash of lightning with thunder that seemed to rock the mountains, followed by snow and wind from the west ; and in Richmond, twenty miles farther south, the phenomena were similar. At New-York, the northeast rain was changed to storm from the west a little later. The storm extended southwards, crossed Chesapeake bay near midnight, changing from rain to cold and snow from the west ; so that a vessel on the Bay, by the freezing of the sails and cordage, was rendered nearly unmanageable. The storm reached Savannah, Georgia, at 2 a.m. of the 18th, where it was a heavy thunder-storm (This last account was received from an intelligent friend then at Savannah, on his return to his New-England home).

These facts show the rapid lateral motion of this storm ; or, in other words, that the change from the west began on the eastern range of mountains, and extended on a line of one thousand miles from north to south at only a few hours difference in time. The accounts of such storms were then few and imperfect ; and even this one, so full of interest when recalled at this day, attracted attention chiefly to the fact, seen by so many on that night in New-England, of the electric fluid passing off into the atmosphere from the ends of sticks, branches of trees, masts of ships, heads of animals, hats and hands of men, etc. ; a fact so long known as a meteor under the name "*Fire of St.Elmo*", or "*Castor and Pollux*". A splendid instance of this meteor is described by Professor Espy in his Fourth Meteorological Report, 1857, p. 182.

The extent of the great storms, which originate with an easterly wind, is very various. In some, the change of direction of the wind begins near the Rocky mountains ; and from that point the violent wind from the west first shows itself, as in the storm of January 1, 1864 : in others, the change

begins not far from the Mississippi river ; and yet in others, on the meridian of Lake Michigan or of Lake Erie. In well-known instances a northeast storm extends from the Atlantic only to the summit of the Allegany range of mountains, where it meets with the western general current strong enough to arrest its progress, and even to force the storm back to the Atlantic.

These storms often extend along the eastern coast of the United States to Nova-Scotia; being more severe at the north or south, as the causes of change are more active and powerful. The equinoctial storm of September 23, 1815, was far more severe on the coast of New-England than south of New-York ; and the greatest damage was done to buildings, trees, and to vessels in ports, by the northeast wind, before the change from the northwest occurred. The violence of this particular northeast wind, even in the western part of Massachusetts 140 miles from the ocean on the east, is yet well remembered. It was shown too by another fact : the salt water of the ocean was blown inland forty miles in sufficient quantity to kill the foliage of trees, which, a few days after the storm, presented the appearance of scorched leaves.

Sometimes the northeast storm extends westward only to the summit of the Green mountains, or that part of the range lying in Massachusetts immediately west of the Connecticut river. On this range the northeast wind and rain meet the wind from the west bearing clouds to the summit of the range, but yielding no rain to Berkshire county or its western or even its middle portion. On the eastern side, on these occasions, a great deal of rain falls ; and in one such case on record, immense damage was done along the streams emptying eastwardly into the Connecticut river. The general west wind here supplied a part of the rain along the mountains ; the opposing currents mingling their vapor, and thereby producing a greater effect. This example shows the great power of the west wind in limiting the extent of a storm from the east, involving a great difference in the quantity of the materials acted upon. If it is urged that such a storm is only the ending of a more extensive one chiefly expending itself over the Atlantic ; even if this were admitted, it would be true that the storm would pass further west, were not the general current from the west the prevailing power.

Another fact demands attention, viz. that a northeast storm begins earlier at the south than further north. FRANKLIN long ago asserted that storms began three hours earlier at Philadelphia than at Boston. The general fact has been so often observed in the last fifty years, that it cannot be doubted; but the time may vary from three hours, according as the violence is greater or less. The fact itself results from the direction of the eastern coast, and the several obvious differences between the land and ocean winds at the south and at the northern part of the United States.

Thus the direction of the coast is very nearly parallel to a line drawn from Cape Sable at the southern extremity of Florida, to Cape Race on the southeast point of Newfoundland ; or, better still, a line from the east coast of Florida, Lat. 30° N. and Lon. 80° W., to the north point of Newfoundland, Lat. 51½° N. and Lon. 54° W., a course but little east of southwest.

Farther west as Charleston, South-Carolina, is than Boston, it will yet sooner feel the storm, for two reasons. The first is that the ocean-wind there is hotter in comparison with the land-air than it is at the north, so that their mixture will the soonest condense into rain-clouds ; and the second is that the sea-wind at the south commences earlier, is more nearly from the east there, and will sooner come to the storm-making point ; while at the north the sea-wind is more nearly from the northeast, and blows in a line nearly parallel to the coast, and hence must be longer in coming to the point of change requisite for storm. For these reasons, a northeast storm must begin at the south, and make its progress northward along the coast, as it is known generally to do.

The phenomena of our storms do not indicate that they have the form of *cyclones*, or are driven by *a rotatory wind on a line;* but they appear to have their central line nearly straight and lying not much inclined to a meridian, with their forward direction on a parallel of latitude and somewhat inclined to it, but sometimes quite oblique to the north or south of such parallel. Such is Espy's representation in his Fourth Meteorological Report, 1857. His figures of numerous storms, drawn from the descriptions of various observers on the grounds they passed over, together with accounts of the winds, barometer and thermometer at the time, represent the width of the storms from north to south as very different (as already noticed in this paper), as well as their length from west to east. The width varied from 5 degrees of latitude, 300 miles, to 8, 10, 15 and 18 degrees of latitude, or the largest 1080 miles. The width of one, west of the Mississippi river, extended from near the Gulf of Mexico to Lake Superior. The length of the storm, or distance traversed from west to east, is also various. The last one just mentioned traversed from west of the Mississippi, laterally northwards across the States and beyond Nova-Scotia, the whole distance being probably above twelve hundred (1200) miles.

Finally : Let these facts and laws be admitted, and the question arises, Who will be able, with the aid of thermometer and barometer and all this knowledge, *to foretell* what the weather of to-morrow *will be and must be ?* The wisest among us know not yet the minute actions of the causes of change by which great ultimate results are produced. What and where are the activities, under the operation of which this stinging northwester after the snowstorm shall cease this night, and the warm southeaster breathe upon us to-morrow, and end by pouring its liquid treasures "alike upon the just and the unjust" ere the day closes ? — Though much has been attained, more is necessary ; and man must discover it.

LYNDE, Esq.; E. S.
ea, 600 feet.)

| ). | 1856. C.W. | 1857. C.W. | 1 C |
|---|---|---|---|
| 58 | 10.21 | 7.75 | 3 |
| 50 | 15.02 | 27.72 | 1 |
| 07 | 24.10 | 27.03 | 3 |
| 70 | 43.68 | 33.32 | 4 |
| 57 | 51.05 | 49.19 | 4 |
| 11 | 66.76 | 61.01 | 6 |
| 39 | 68.88 | 68.89 | 7 |
| 31 | 63.91 | 67.48 | 6 |
| 35 | 57.75 | 61.04 | 6 |
| 11 | 47.60 | 46.81 | 4 |
| 11 | 34.12 | 29.57 | 3 |
| 17 | 15.83 | 30.71 | 2 |
| 10 | 15.70 | 17.10 | 2 |
| 18 | 39.61 | 36.51 | 4 |
| 17 | 66.52 | 65.79 | 6 |
| 16 | 46.49 | 45.81 | 4 |
| 16 | 41.57 | 42.55 | 4 |

ighteen years; the
r, 1854, was followe
ture, either of heat
7. If we take the m
terms ending with 1
while the term endin
some truth in the po

## V. A TABLE*,

SHOWING the Monthly Mean Temperature of the open air in the shade at Milwaukee, Wisconsin, from 1837 to 1864, as observed by C. J. LYNDE, Esq.; E. S. MARSH, M.D.; CHARLES WINKLER, M.D.; and I. A. LAPHAM, LL.D.
(Lat. 43° 03′ N.; Lon. 87° 56′ W. Elevation above the sea, 600 feet.)

| | 1837. I.A.L. | 1838. I.A.L. | 1840. C.J.L. | 1841. C.J.L. | 1843. E.S.M. | 1844. E.S.M. | 1845. E.S.M. | 1846. E.S.M. | 1847. E.S.M. | 1848. E.S.M. | 1849. M.& L. | 1850. I.A.L. | 1851. I.A.L. | 1852. I.A.L. | 1854. I.A.L. | 1855. C.W. | 1856. C.W. | 1857. C.W. | 1858. C.W. | 1859. W.& L. | 1860. I.A.L. | 1861. I.A.L. | 1862. I.A.L. | 1863. I.A.L. | 1864. I.A.L. | No. of Years. | Mean of the whole. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| January | 18.45 | 19.00 | ..... | 17.00 | ..... | 24.66 | 31.46 | 34.63 | 18.06 | 30.86 | 19.36 | 27.65 | 27.25 | 20.72 | ..... | 22.58 | 10.21 | 7.75 | 30.90 | 23.89 | 23.99 | 21.22 | 20.30 | 29.76 | 18.77 | 22 | 22.76 |
| February | ..... | ..... | ..... | 20.50 | ..... | 31.49 | 33.09 | 28.43 | 28.49 | 29.19 | 19.37 | 28.84 | 31.26 | 28.03 | ..... | 14.50 | 15.02 | 27.72 | 16.83 | 26.96 | 27.41 | 27.78 | 18.35 | 26.88 | 25.92 | 20 | 25.30 |
| March | ..... | ..... | ..... | 31.20 | ..... | 36.67 | 41.77 | 36.87 | 30.97 | 35.47 | 35.94 | 32.02 | 39.38 | 31.98 | 36.17 | 27.97 | 24.10 | 27.03 | 35.25 | 37.45 | 40.38 | 31.96 | 32.40 | 31.42 | 30.65 | 21 | 33.67 |
| April | ..... | ..... | ..... | ..... | ..... | 55.20 | 50.90 | 53.05 | 47.50 | 46.20 | 41.21 | 40.03 | 43.64 | 38.17 | 43.65 | 46.70 | 43.68 | 33.32 | 41.51 | 39.50 | 43.76 | 44.82 | 41.60 | 44.95 | 40.12 | 20 | 43.98 |
| May | ..... | ..... | ..... | ..... | ..... | 58.27 | 59.47 | 58.87 | 53.64 | 58.57 | 49.36 | 50.10 | 52.15 | 54.65 | 54.24 | 53.67 | 51.05 | 49.19 | 49.55 | 55.01 | 56.24 | 50.68 | 53.65 | 55.55 | 55.15 | 20 | 53.95 |
| June | ..... | ..... | ..... | ..... | ..... | 62.39 | 67.19 | 64.79 | 64.49 | 68.22 | 64.75 | 65.59 | 63.20 | 65.66 | 65.50 | 59.71 | 66.76 | 61.01 | 67.23 | 60.35 | 64.17 | 64.53 | 60.84 | 63.70 | 65.22 | 20 | 64.27 |
| July | 65.00 | 73.00 | ..... | ..... | 70.88 | 70.88 | 73.88 | 71.08 | 73.88 | 67.63 | 67.68 | 72.59 | 69.02 | 70.32 | 74.13 | 67.69 | 68.88 | 68.89 | 70.92 | 71.59 | 69.00 | 68.05 | 71.09 | 68.55 | 71.27 | 23 | 70.21 |
| August | ..... | ..... | ..... | ..... | 67.09 | 67.59 | 69.69 | 68.12 | 66.39 | 67.86 | 64.98 | 69.58 | 67.26 | 68.13 | 71.81 | 65.41 | 63.91 | 67.48 | 68.85 | 70.80 | 66.82 | 69.21 | 70.63 | 69.03 | 69.75 | 21 | 68.11 |
| September | ..... | ..... | ..... | ..... | 66.34 | 63.04 | 63.14 | 64.17 | 64.14 | 57.81 | ..... | 59.70 | 65.52 | 58.82 | 65.65 | 61.45 | 57.75 | 61.04 | 61.66 | 59.29 | 58.76 | 63.71 | 62.29 | 59.42 | 60.97 | 20 | 61.58 |
| October | ..... | ..... | ..... | ..... | 43.25 | 48.25 | 50.15 | 47.23 | 50.55 | 50.70 | ..... | 49.35 | 49.51 | 53.12 | 54.13 | 44.61 | 47.60 | 46.81 | 49.30 | 48.16 | 50.00 | 50.11 | 51.00 | 43.45 | 45.67 | 20 | 48.65 |
| November | ..... | ..... | ..... | ..... | 35.76 | 31.26 | 36.16 | 34.39 | 39.16 | 34.56 | 44.41 | 41.95 | 34.45 | 33.42 | 37.79 | 36.61 | 34.12 | 29.57 | 33.60 | 40.28 | 36.15 | 36.79 | 35.35 | 36.81 | 32.08 | 21 | 35.94 |
| December | ..... | ..... | 24.90 | ..... | 32.88 | 20.88 | 22.38 | 27.98 | 28.88 | 25.78 | 20.96 | 24.55 | 21.98 | 26.52 | 27.41 | 21.87 | 15.83 | 30.71 | 27.86 | 19.67 | 24.80 | 31.11 | 30.74 | 29.16 | 20.13 | 22 | 25.77 |
| Winter | ..... | ..... | ..... | 20.80 | ..... | 29.68 | 31.81 | 28.48 | 24.84 | 29.64 | 21.50 | 25.82 | 27.69 | 23.58 | ..... | 21.50 | 15.70 | 17.10 | 26.15 | 26.24 | 23.70 | 24.60 | 23.25 | 29.13 | 24.62 | 20 | 24.61 |
| Spring | ..... | ..... | ..... | ..... | ..... | 50.05 | 50.71 | 49.60 | 44.04 | 46.74 | 42.17 | 40.72 | 45.06 | 41.60 | 44.69 | 42.78 | 39.61 | 36.51 | 42.10 | 43.99 | 46.79 | 42.49 | 42.55 | 43.93 | 41.97 | 20 | 43.87 |
| Summer | ..... | ..... | ..... | ..... | ..... | 66.95 | 70.25 | 68.00 | 68.25 | 67.90 | 65.80 | 69.25 | 66.49 | 68.04 | 70.48 | 64.27 | 66.52 | 65.79 | 69.00 | 67.58 | 66.66 | 67.26 | 67.52 | 67.09 | 68.75 | 20 | 67.53 |
| Autumn | ..... | ..... | ..... | ..... | 48.55 | 47.52 | 49.82 | 48.60 | 51.18 | 47.69 | ..... | 50.33 | 49.83 | 48.45 | 52.52 | 47.56 | 46.49 | 45.81 | 48.19 | 49.24 | 48.30 | 50.71 | 49.55 | 46.56 | 46.24 | 20 | 48.72 |
| Year | ..... | ..... | ..... | ..... | ..... | 48.38 | 49.94 | 49.05 | 47.18 | 47.74 | ..... | 46.83 | 47.05 | 45.70 | ..... | 43.56 | 41.57 | 42.55 | 46.12 | 46.09 | 46.80 | 46.66 | 45.69 | 46.55 | 44.64 | 18 | 46.18 |

* Received too late for reference in the Contents.

THE above Table, which has been compiled with great care from manuscript records in my possession, will be found valuable by enabling us to compare the climate of Milwaukee with that of other places. It will be seen that the general mean temperature, deduced from all the observations, is 46°.18; that the coldest year was 1856 (41°.57), differing 8°.37 from the warmest year 1845 (49°.94): the coldest month is January (22°.76), though in six cases February was the coldest. January, in 1857, was the coldest month known since the first settlement of the place, the mean temperature being only 7¾°. July is the warmest month (70°.21): June, in 1854, was the warmest month. The winter and spring of 1845 were the most moderate in eighteen years; the winter of 1856 and the spring of 1857 were the coldest. The hottest summer, 1854, was followed by the mildest autumn. It will be noticed that no *extreme* of temperature, either of heat or cold, indicated by the table in antique figures, has occurred since 1857. If we take the mean annual temperature of five years together, it will be found that the terms ending with 1853 (46°.71), and with 1863 (46°.36), were very near the general mean, while the term ending with 1857 was the coldest (42°.56); thus indicating that there may be some truth in the popular theory of cold and warm terms of years.

I. A. LAPHAM.

[ To face page 230.]

## VI. TABLE OF THE VARIATION OF THE NEEDLE*.

For Uſe in the Landoffice at Pierrepont Manor in Jefferſon County, New-York, in Lat. 43° 43′ 45″ N. and Lon. 75° 56′ 57″ W.; and to apply to Great Tracts N° 4, 5 & 6, Macomb's Purchaſe, which were ſurveyed and allotted from 1795 to 1803.

Made 1823 September 18, and 1856 November 25:

BY WILLIAM C. PIERREPONT.

Variation: Yearly, 5′ 14″.4367; Daily, 0″.86107.

| | | | | | |
|---|---|---|---|---|---|
| 1797 | October 1, no variation. | | 1840 | Nov. 25, var. w. | 3° 46′ 09″.10 |
| 1797 | Nov. 25, var. w. | 0° 00′ 48.″24 | 1841 | | 3 51 23.54 |
| 1801 | | 0 21 45.99 | 2 | | 3 56 37.98 |
| 1802 | | 0 27 00.43 | 3 | | 4 01 52.42 |
| 1803 | | 0 32 14.87 | 4 | | 4 07 06.86 |
| 1804 | | 0 37 29.30 | 1845 | | 4 12 21.30 |
| 1805 | | 0 42 43.76 | 6 | | 4 17 35.74 |
| 1806 | | 0 47 58.17 | 7 | | 4 22 50.18 |
| 1811 | | 1 14 10.35 | 8 | | 4 28 04.62 |
| 1816 | | 1 40 22.54 | 9 | | 4 33 19.06 |
| 1820 | | 2 01 20.30 | 1850 | | 4 38 33.50 |
| 1 | | 2 06 34.74 | 1 | | 4 43 47.94 |
| 2 | | 2 11 49.19 | 2 | | 4 49 02.38 |
| 3 | | 2 17 03.62 | 3 | | 4 54 16.82 |
| 4 | | 2 22 18.06 | 4 | | 4 59 31.26 |
| 1825 | | 2 27 32.05 | 1855 | | 5 04 45.70 |
| 6 | | 2 32 46.94 | 6 | | 5 10 00.14 |
| 7 | | 2 28 01.38 | 7 | | 5 15 14.58 |
| 8 | | 2 43 15.82 | 8 | | 5 20 29.02 |
| 9 | | 2 48 30.26 | 9 | | 5 25 43.46 |
| 1830 | | 2 53 44.70 | 1860 | | 5 30 57.90 |
| 1 | | 2 58 59.14 | 1 | | 5 36 12.34 |
| 2 | | 3 04 13.58 | 2 | | 5 41 26.78 |
| 3 | | 3 09 28.02 | 3 | | 5 47 41.22 |
| 4 | | 3 14 42.46 | 4 | | 5 52 55.65 |
| 1835 | | 3 19 56.90 | 1865 | | 5 58 10.10 |
| 6 | | 3 25 11.34 | 6 | | 6 03 24.54 |
| 7 | | 3 30 25.78 | | | |
| 8 | | 3 35 40.22 | | | |
| 9 | | 3 40 54.66 | | | |

Note. The only *actual* observations *preserved* are,

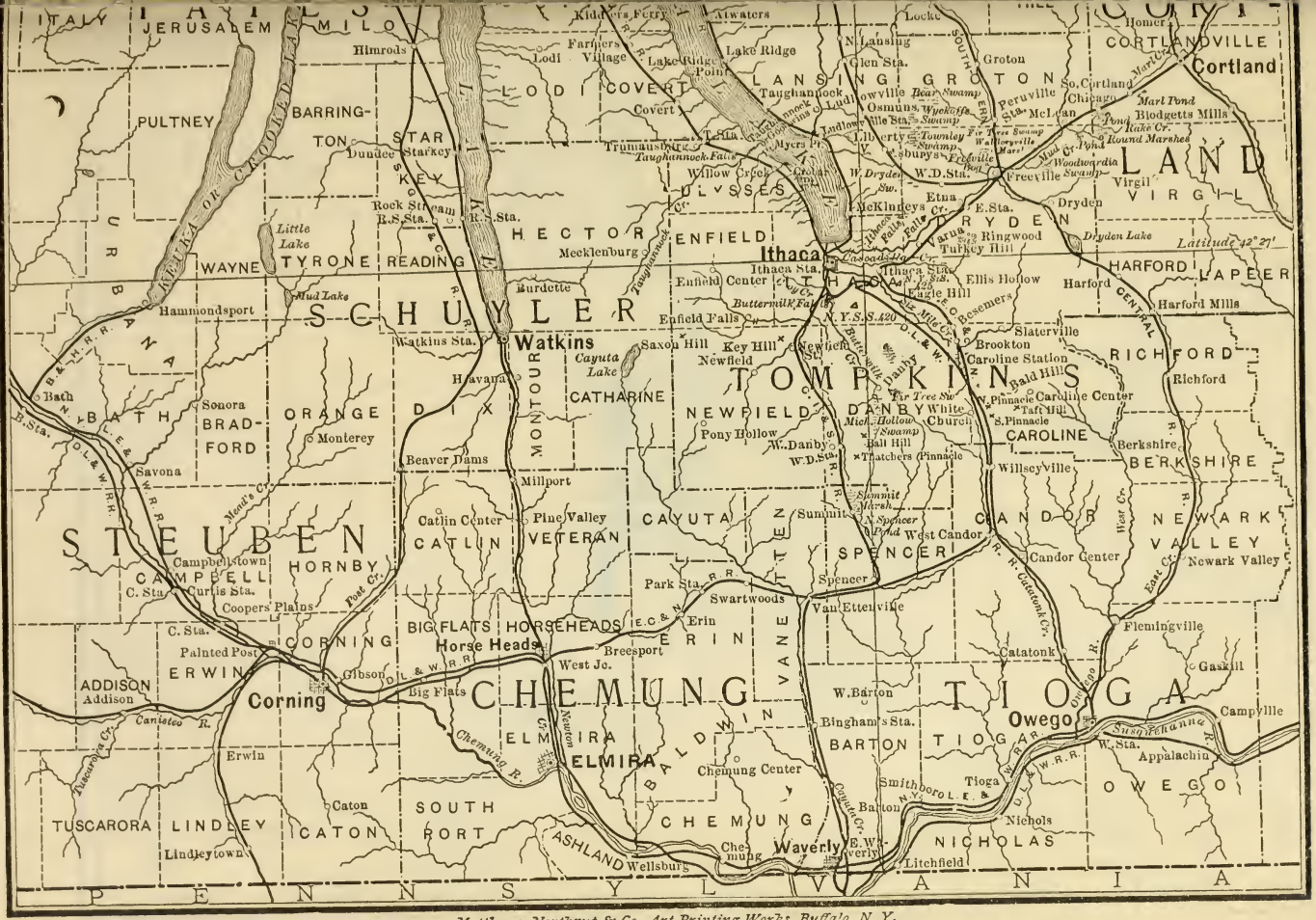
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|---|---|
| 1823 September 18 : | 2°16′ 05″ |
| 1847, | 4 23 |
| 1856 November 25, | 5 10 |
| 1860 July 15, | 5 36 |
| 1863, | 5 44 |
| 1864 April 12, | 5 50 |
| 1865 May 4, | 6 00 |

Theodolite records only to minutes.

* Received too late for reference in the Contents.

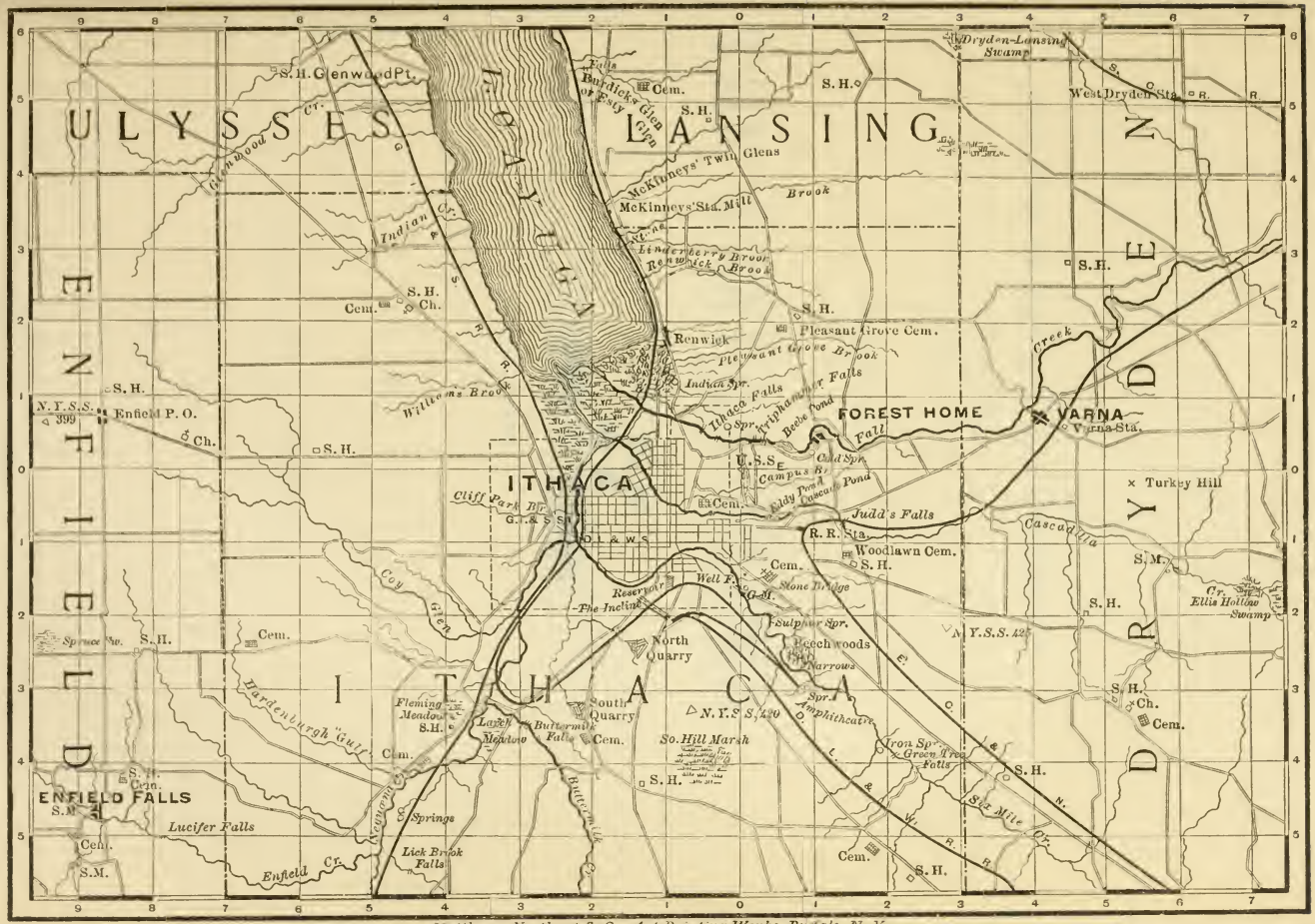
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MAP OF
THE LAKE REGION
OF
CENTRAL NEW YORK.
SCALE OF MILES.
LAKE ONTARIO
ONTARIO
WAYNE
SENECA
CAYUGA
ONONDAGA
CANANDAIGUA LAKE
SENECA LAKE
CAYUGA LAKE
SKANEATELES LAKE
OWASCO LAKE
Fair-Haven
Little Sodus Bay
Sodus Bay
Sterling
STERLING
M. Sta.
Martville
WOLCOTT
Red Creek
HURON
Sodus
Wallington
Alton
Wolcott
WATERTOWN & OGDENSBURG R.R.
SOUTHERN R.R.
HOME
WILLIAMSON
Williamson
Ontario
S O D U S
WALWORTH
MARION
Marion
North Rose
ROSE
Rose
South Butler
BUTLER
VICTORY
Victory
Ira Sta.
Ira
IRA
LYSANDER
Lamsons
Mud Lake
Euclid
Baldwins
V.
CLAY
Oswego R.
Oneida R.
SYRACUSE NORTHERN R.R.
Duck Lake
Cato
Parker Pond
Otter Lake
Cross Lake
Conquest
CONQUEST
CONQUEST
VAN BUREN
Memphis
Styles
Warner's
Amboy
SALINA
SYRACUSE
MACEDON
PALMYRA
ARCADIA
Macedon
East Palmyra
Palmyra
NEW YORK CENTRAL R.R.
WEST SHORE R.R.
Lyons
Clyde
HUDSON RIVER R.R.
SAVANNAH
Savannah
Seneca R.
J. Sta.
Weedsport
Jordan
ELBRIDGE
CAMILLUS
Camillus
Fairmount
Skaneateles Sta.
Port Byron
BRUTUS
Montezuma
MENTZ
Sta.
Newark
GALE
Mud Cr.
Canandaigua Outlet
Clifton Spr.
Shortsville
O. & L. E. R.R.
O. Crossing
P. Sta.
Rhelps
THELPS
Dublin
JUNIUS
Newtons Pond
West Junius
Lowery Pond
Pont Pond
Iron Sp.
Black Lick
Salt Spr. Sta.
TYRE
THROOP
Throopsville
Sennett
SENNETT
Marcellus
MARCELLUS
ONONDAGA
Skaneateles
CELLUS
Indian Reservation
Onondaga Cr.
FARMINGTON
MANCHESTER
Chapinsville
Oaks Corners
HOPEWELL
Canandaigua
Hopewell
Geneva
WATERLOO
Waterloo
SENECA
AURELIUS
Cayuga
Aurelius Sta.
Auburn
Seneca Falls
FALLS
Canoga Marshes
Hills Branch
Howlands
Frontenac Id.
Rose Hill
FAYETTE
Stanleys
SENECA
Union Springs
Wycoffs
SPRING-
FLEMING
Owasco
OTISCO
SKANEATELES
SPAFFORD
PORT
GORHAM
Halls
W. Fayette
Farleys Pt.
Varrick
Merrifields
NILES
TULLY
Tully
T. Sta.
Ievanna
SCIPIO
LED-
Sherwood
Ensenore
Aurora
YARD
Romulus
Woods Sta.
Cascade
Venice Centre
MORAVIA
SEMP-
RONIUS
SCOTT
PREBLE
Preble
P. Sta.
MIDDLE
POTTER
SEX
Potter Center
Benton
BENTON
Benton Sta.
Dresden
ROMULUS
Rock Pt.
High
Willets
VENICE
Moravia
Flint Cr.
Beaver Cr.
Seneca R.
Cayuga Inlet
Fall Cr.
Salmon Cr.
Owasco Outlet
Owasco Inlet
Taughannock Cr.
Fall Brook
Cayuga Lake Outlet




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BULLETIN OF THE CORNELL UNIVERSITY.
(SCIENCE.)
VOL. II.

# THE CAYUGA FLORA.

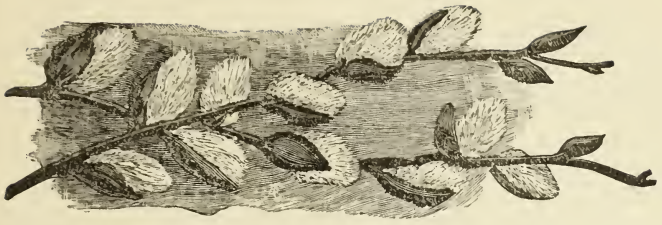
PART I: A CATALOGUE OF THE PHÆNOGAMIA GROWING WITHOUT CULTIVATION IN THE CAYUGA LAKE BASIN.

BY

WILLIAM R. DUDLEY.

ITHACA, N. Y.:
ANDRUS & CHURCH,
1886.

The title, "Bulletin of Cornell University, (Science)," is here revived with the permission of the authorities of this University, and out of regard and affection for the memory of Professor Charles Frederick Hartt, whom the earlier Cornell students remember as a man of brilliant and captivating intellectual qualities, and a source of inspiration to thorough and untiring work in Science; who projected a series under the above title, and with his friend and pupil Professor Derby, published the initial volume in 1874, containing papers on the geology and palæontology of Brazil.



# Preface.

The local explorations of this region, which have resulted in the accumulation of the facts recorded in the present publication, were begun more for the pleasure they involved, than with any well-defined purpose in view. Soon, however, they were taken up more earnestly, with the desire of enlarging our knowledge of the immediate resources of the Botanical Department of Cornell University. Since 1880, there have been added objects, viz. : to ascertain as precisely as possible the abundance of each species, the local distribution of it, and the number and habits of those forms whose limit of general distribution on this continent falls within or near our territory, all, of course, involving the taking of voluminous field-notes, and the collection of a large series of specimens. But it must be remembered that while the results of observation on geographical distribution are recorded, the catalogue is primarily intended to assist the student and local collector, and contains many things which would be of little interest to the non-resident. For instance, the dates of the local flowering of plants are given with considerable closeness ; these are for average years, and due allowance must be made with the spring flowers, for such a season as the present (1886), when everything since the first week in April has been two or three weeks in advance of the average season ; and naturally these dates might not answer for a climate differing from ours. Again, localities are often mentioned, for plants not especially rare, solely for the purpose of aiding student collectors. Forms and varieties of species have been included in the catalogue numbers, with somewhat more than ordinary fullness, in order to call forth further observations from local and other collectors, on their abundance and constancy. We have been chary of giving new names to such, in order to avoid a possible increase of synonyms, although we believe some of those numbered will prove to be, when better known, well-marked varieties.

Acknowledgements are due from the writer to several of his botani-

cal friends for pronouncing upon varying or critical forms. Dr. Gray, in the midst of most arduous labors, kindly went over a large package of specimens sent him, contributing valuable notes and suggestions, especially on *Ranunculaceæ* and *Compositæ*. Moreover he most thoughtfully and opportunely forwarded for use, the proof-sheets of his "*Revision of the North American Ranunculi*." Mr. Sereno Watson, of Cambridge, assisted me on the *Rosaceæ* and *Apetalæ*. Our *Carya sulcata* was submitted with many other woody plants to Professor C. S. Sargent. Dr. Vasey of the National Herbarium has seen a large number of our grasses and given me much information on forms collected here and elsewhere. He examined a large number of Eatonias in the herbariums of the eastern cities before naming the herein-described species of that genus which had long interested me. To the herbarium of Mr. M. S. Bebb, of Rockford, Ill., has been contributed at different times, full sets of our interesting *Salices*. In return he has contributed very valuable notes, drawings and specimens, and our correspondence has been a most delightful one. In spite of ill-health he has freely advised me; and defining the position of the hybrid willows is chiefly his work, any opinion of my own having in most cases, received his sanction. Mr. Morong, of Ashland, Mass., has equally favored me in his especial field the *Naiadaceæ*. His contribution of specimens to my own herbarium has been of very great value. Valuable information or specimens have also been received from Dr. Charles H. Peck of the N. Y. State Herbarium, from Mr. E. L. Hankenson, of Wayne Co., and from Professors Trelease, J. M. Coulter, and L. H. Bailey.

In making explorations and amassing the materials and facts for the catalogue, the writer has of course devoted much of his own time and resources, and has for certain periods privately employed the assistance of special students; but he here wishes to make a general acknowledgement for information always freely reported,—when anything interesting turned up,—by the special students in botany and others, whose helpful and generous ways have often been the chief encouragement in the pursuit of the work.

The work of exploration, collection, revision, critical study, correspondence and the accumulation of collateral facts, has all been carried on as a secondary matter to unusually arduous duties of instruction. It is believed, however, that the work has been thorough enough to justify publication, and the reader is assured that all localities given in the catalogue are selected from records written where the plants grew, or made at the end of the excursion on which they were observed. A full, frank statement is made where necessary, of observations, of opinions held in regard to distribution, and of other matters, in order to furnish an unequivocal basis for emendations, corrections and additions,—as well as to give information,—believing that a mere list of names, not easily capable of verification, really furthers our knowledge but little. It is to be hoped that this contribution will be met in the spirit in which it is offered, its oversights and manifest shortcomings pardoned in the endeavor to contribute additional, authentic information, whenever such is obtained by those

using the catalogue. Any one finding plants new to the region or new stations for rare plants, should send us information of the locality, accompanied if possible by the specimens, and all such information will be put on file at the Botanical Laboratory, in the future, as it has been for several years past. It is proposed that whenever such a list accumulates sufficiently to warrant it, to publish a supplementary slip containing the additions, with the names of the discoverers, and to send it to any one who may desire it.

During the collection of materials for the phænogamic list, a large number of the higher cryptogams have been pressed, and the material largely worked up ; also a considerable number of parasitic fungi have been saved and much work already done on them, and at no distant day we may hope to place before our students something tangible on several of the more important groups of lower plants.

The author has recognized more clearly than any one else could, that this work is pioneer work, but resolved that it should be done with a certain degree of thoroughness, believing that it is only by full and accurate records of this kind, made for every section of the country, that we shall ever succeed in demonstrating beyond dispute the great and profoundly interesting problems of geographical distribution of species. Nevertheless, he feels that this list is merely a contribution to the better knowledge of our plants ; and it does not for a moment pretend to approach the position of a completed history of their distribution in this region. Although we have explored most of the apparently interesting nooks within the limits, still there are probably others unobserved, as there are also known localities deserving further attention. And when we recognize the fact that after centuries of close scrutiny some corner of Great Britain periodicaliy discloses a plant never before seen on the island, and that since the publication of the Flora of Washington in 1881, scores of new discoveries have been made within its limits, we know that many new ones await us here.

Botanical Laboratory,
Cornell University, May 20, 1886.

# Introduction.

## Limits of the Flora and its Physical Characters.

This catalogue professes to include all the flowering plants, so far as observed, growing without cultivation in the territory drained by Cayuga Lake, its tributary brooks and creeks. It also includes the plants of the water-shed marshes and ponds lying between our hydrographic system and the neighboring ones,—besides the altogether independent, outlying and exceedingly interesting little water-system of the West Junius ponds. The latter, an important addition to our illustrative resources, belongs as much to our system as to any of the smaller ones, and is therefore combined with it in this work. The water-shed marshes and ponds sometimes drain into the Cayuga system as in the case of Locke Pond, Dryden Lake, the Round Marshes, the White Church and Brookton Springs; sometimes away from it, as in the case of Cayuta Lake, Michigan Hollow Swamp and the Fir-Tree Swamp in Danby, and the larger Marl Ponds in South Cortland. There is an outflow in freshet seasons only, from Summit Marsh, and from Freeville bog and the Fir-Tree Swamp at Freeville, and then into other streams than ours, while the pond and marsh near Chicago Station, also several of the Marl Ponds have no apparent outlet.

The greatest length of this territory is about sixty-five miles, extending southward from Montezuma, on the Erie canal, to Summit Marsh, in the northern part of Tioga County. Its average breadth could be considered about eighteen miles. Its least breadth, near the northern marshes, is only from four to six miles. From this region the basin gradually widens till near the vicinity of Ithaca it suddenly expands, becoming on the line of its greatest breadth about thirty-two miles. This line extends from Cayuta Lake on the southwest, through Ithaca to the Marl Ponds on the northeast. In this part of the Cayuga basin occur the larger streams, such as Fall Creek, Cascadilla, Six Mile and Neguæna Creeks, all entering the "Inlet" and the south end of the lake in a group. The only rival streams are Salmon Creek and Taughannock Creek, entering the lake about ten miles from the southern end. All of these streams flow through preglacial valleys, the larger of which their slender currents have altered but little from the ancient form. Of this part of the basin, Ithaca is the central point, and its county (Tompkins), is wholly within our limits. Considerable portions of Cayuga Co., on the eastern shore, and of Seneca Co., on the western shore of Cayuga Lake, and small fractions of Schuyler, Tioga and Cortland, also fall within this basin.

The central topographical feature is Cayuga Lake; and, indeed, by reference to the map it will be seen to be the central feature of the whole lake-system of Central New York. The neighboring lakes are all at a higher level, and pour their waters, either into the vast level marshes which are manifestly but a northern continuation of the great Cayuga valley, or into Cayuga Lake itself. Seneca, Owasco and the other lakes usually possess a well-defined northern shore, but the Cayuga Marshes, raised but little above the level of our lake, so blend into its shallows that its exact northern termination is difficult to define; and they give to it,—at least to that portion of it—a character entirely its own, which was recognized by the "Six Nations," or ancient Kanonsionni, who called what we now know as Cayuga Lake, "Tiohero,"[1] the *lake of flags or rushes*, or *lake of the marsh*.[2] The limit of the Flora is therefore extended down these marshes to Montezuma. The length of the lake is usually estimated at 38 miles, its breadth from 1½ to 3 miles. In appearance therefore it resembles a great river; indeed it is said to occupy a part of a preglacial river channel of which the Neguæna valley was the continuation. The height of the lake above mean tide is 383 feet,[3] the greatest depth found by numerous soundings of the Cornell University Engineering Department was 435 feet, at a point directly off Kidder's Ferry. In the section between Myers Point and Sheldrake Point it is in many places over 400 feet deep. On account of its depths its waters are comparatively cold far into the summer, and rarely become so chilled in winter as to admit of the formation of ice over the deeper sections. From one-half to two-thirds of the middle section usually remains open, but in the winter of 1884–5 the lake was frozen over before the middle of February and the ice did not break up till the first week in April. There is a tradition that this occurs about once in twenty years. The temperature of the lake unquestionably influences the development of vegetation in its immediate vicinity. Plants on its shores are usually a week later in the Spring than in the neighboring ravines and the warm valley about Ithaca, and a week earlier than on the distant highest hills; and during the first half of November, the blue flowers of *Aster lævis* and the white plumes of *Aster sagithfolius* still remain in considerable abundance, while they have long ago matured and faded near Ithaca. The extremes of the natural climate are in this manner so modified that the eastern slopes of Cayuga and the other lakes have always grown the

[1] See *Relations des Jésuites*, for the year 1672, Quebec Ed., III, p. 22; also the map in the same volume.

[2] See Notes of Gen'l J. S. Clark, in the Journal of Lieut. Hardenbergh, p. 71. The name is variously written *Thiohero*, *Tichero*, *Choharo*. At the time of the establishment of the Jesuit mission in 1656, at the foot of the lake, and for a century after, the name was also applied to one of the three principal towns of the Cayuga tribe of the great League, viz.: that on the eastern side of the Cayuga Marshes near where the turnpike crosses the outlet at present. Apparently the same word with same meaning—written *Deyohero*—is in the Canienga or Mohawk dialect. See Hale's explanation in his *Iroquois Book of Rites*, 1883, p. 121.

[3] See Survey of the Geneva, Ithaca and Sayre R. R.

peach[1] successfully. The lake waters are above the average in purity excepting at the extreme northern and southern extremities, as was demonstrated a few years since by analyses made by my friend Professor Breneman.

Proceeding southward from the gently sloping shores near Cayuga Bridge the banks become gradually bolder, until in the vicinity of Levanna the first cliffs appear on the eastern shore. Between Willets and Kings Ferry these reach their culmination in the "High Cliffs;" but stretches of lofty, precipitous, or more or less broken declivities occur on both shores until within a few miles of the southern extremity. At intervals especially near the mouth of some stream are low half-sandy points which yield many rare plants. Near Ithaca, and about two miles from the lake, the great valley forks, the main portion continuing to the right of South Hill, a preglacial valley of erosion extending southwardly to Waverly in the Susquehanna valley. The other portion on the left of South Hill is similar to the first and forms the present Six Mile Creek and White Church valleys, and opens into the Susquehanna at Owego. These deep valleys penetrate and cut through the great dividing ridge between the St. Lawrence or Great Lake hydrographic system to which our streams and smaller lakes are tributary, and the Susquehanna system, and are parallel to similar valleys east and west of us. The head waters of the streams occupying them, i. e., the summits between the two systems are usually very near the crossing of the dividing ridge. The points of greatest elevation in our whole region, the most precipitious, as well well as botanically the most interesting of our inland declivities, and the watershed marshes, springs and ponds being in fairly close contiguity, as the following statements will show.

The subjoined stations with elevations above mean tide, recorded in the current reports of the N. Y. State Survey by the numbers preceding each, are upon this dividing ridge southwest of us, and include the highest points yet measured in that direction:

No. 405, Urbana sta., Steuben Co., west of Hammondsport, 1940 feet.
" 401, Hornby sta., " " " " " 2045 "
" 394, Sproul sta., Schuyler Co., west of Watkins, 2091 "
" 226, Orange sta., " " southwest of Watkins, 2033 "
" 428, Couch sta., " " southwest of Cayuta L. 1679 "
" 403, Newfield sta., Tompkins Co., Saxon Hill. 2095 "

Cayuta Lake, one of our watershed lakes, lies only about two miles southwest of Saxon Hill. The latter point can be readily discerned from the University Campus, as the highest elevation of the farther rim of blue hills, and lies a few points south of west. This rim of hills is the dividing ridge above spoken of. It trends eastward, crossing

[1] In the Sullivan campaign against the Six Nations in 1779, Col. Butler destroyed an Indian town on the present site of Aurora called *Chonodote* or Peach-tree Town, together with "about 1500 peach trees besides apple trees and other fruit trees." Even as late as 1845, Schoolcraft found "within the boundaries of Aurora, the remains of an apple orchard, which was ruthlessly cut down by a detachment of Sullivan's army," *Notes on the Iroquois*, p. 57. The apple trees and probably the peach trees were introduced by the Jesuits.

the Neguæna valley, south of west Danby, where a spur of it on the eastern side, forms the interesting knob of Thacher's Pinnacle, and a mile farther east appears in a still more elevated point, Ball Hill, its height unknown but certainly rivalling the Caroline hills. At the eastern base of Ball Hill lies Michigan Hollow Swamp, about 1400 feet above tide, while two or three miles south of where the ridge crossed the Neguæna, is Summit Marsh, near the source of Neguæna Creek. The ridge continues eastward to Durfee Hill, west of the White Church valley and reappears on the east side in the bold cliffs of the North and South Pinnacles and then rises to the rounded summits of Bald Hill[1] and Taft Hill, usually known as the Caroline hills. Northeast between the Caroline hills and the Virgil hills lies Dryden Lake.

The following records from the Survey of N. Y, show some of the elevations along the divide east and northeast of us, the first named being on a northerly somewhat isolated branch :

No. 113, Dryden sta., on Creamer Hill, central part of Dryden, 1880 ft.
" 385, Richford sta., Tioga Co., east of Caroline Hills, 1995 "
" 402, Virgil sta., Cortland Co., east of Woodwardia Sw., 2133 "
" 419, Morehead sta., " " east of the Round Marshes, 1865 "
" 382, Solon sta., " " northeast of Cortland, 1977 "
" 107, Niles sta.. Cayuga Co., east of Owasco L. 1621 "

It will be useful to compare the elevations of some of the marshes, ponds, "summits" or R. R. stations in the valleys near the dividing ridge. These are derived chiefly from the R. R. Surveys.

| | |
|---|---|
| W. Danby railroad station | 872 feet |
| Summit " " | 1072 " |
| Summit Marsh | 1050 " |
| White Church railroad station | 958 " |
| Dryden Lake, (surface.) | 1160 " |
| Summit of the S. C. R. R. | 1215 " |
| Freeville railroad station | 1049 " |
| Malloryville " | 1057 " |
| McLean " | 1090 " |
| Chicago " | 1169 " |
| South Cortland, (Marl Ponds) | 1151 " |
| Cortland | 1116 " |
| The Round Marshes | 1100± " |

The four higher sphagnum swamps in our basin are the little Spruce Swamp on the Enfield Hills, less than two miles south of the N. Y. S. S. 399, and approaching it in elevation, Michigan Hollow and Fir-Tree Swamps in Danby, and the swamps about Locke Pond. The latter is probably the most elevated pond in our region. The lowest sphagnum swamps are Larch Meadow and Fleming Meadow about 400° above the sea.

The following are the elevations of certain subordinate, but interesting points :

---

[1] The height of Ball Hill, according to Professor H. S. Williams is about 1900 feet. Taft Hill has about the same elevation.

| | |
|---|---|
| Ithaca | 392 feet |
| No. 399, Enfield sta., (N. Y. S. S.) | 1464 " |
| " 420, Turner sta., " South Hill, Ithaca. | 1125 " |
| " 425, Hungerford sta., " Eagle Hill, " | 1273 " |
| Cornell Univ. S. $S._e$ (the central sta. of our map) | 788 " |

The station number is always plainly marked on the small granite monument erected at each of the stations of the N. Y. Survey.

From this rapid review of the territory comprised in our Flora it will be seen that it has a peculiar form, and varies much in height, ranging from 383 feet at the lake-level, to 2095 feet on the southwestern and 2133 feet on the eastern boundaries. Nevertheless these heights can scarcely be called mountains,[1] but giant hills instead, scored out of an ancient table-land. They rarely present cliffs or exposed rocks, excepting where some recent ravine or a preglacial valley has been cut through the undisturbed strata, but are rounded and cultivated or at least tillable to their summits.

There remains but one other feature to mention in this general review. Nothing in the physical aspect of this region strikes the stranger as more characteristic than the so-called gorges or ravines, found in the first great bench above the lake and valleys, wherever a creek or even brook descends to the lower level. The true gorges are probably without exception, of recent or post-glacial origin, the walls are frequently of perpendicular or overhanging rock from fifty to two hundred feet, or even much higher, as in Taughannock and Enfield ravines. Within these great chasms are usually falls or cascades, some of them exceedingly beautiful and of considerable height.

The ravines themselves are often flanked on either side by a succession of well-marked terraces of sand or gravel, the most conspicuous cases being near Coy Glen, Enfield, and Buttermilk ravines, clearly visible many miles away.

For comparison with other regions the following elevations are given, derived from railroad, canal and official U. S. Surveys:

| | | | |
|---|---|---|---|
| Canandaigua L. | 668 feet | Skaneateles L. | 932 feet |
| Keuka L. | 718 " | The Tully Lakes | 1200 " |
| Seneca L. | 445 " | Lake Erie | 573 " |
| Cayuga L. | 383 " | Lake Ontario | 247 " |
| Owasco L. | 713 " | | |

The summit level of the canal south from Seneca L. is 884 feet.

The topographical features of this region have so modified or controlled the distribution and occurrence of plant forms that the brief outline of them given above seemed absolutely necessary. In other words, soil and exposure have been chiefly influential in this distribution, but in certain species, the connection of the plant-habitat with the great and more remote centers of distribution, together with the elevation, high or low as the case may be, furnish important, perhaps essential, conditions. It will be seen that the southern part of our

[1] On the map accompanying Kalm's Travel, published 1772, the heights southeast of Cayuga L. (probably the Caroline hills) are styled the "Onugarechny Mts."

Flora occupies a portion of that singular and much eroded table-land which forms the extreme outworks of the great Alleghany mountain-chain, but which is cut off from it by the rather narrow valley of the Susquehanna River. This fact presents us with the interesting and subtle problem of our relationship to the peculiar Alleghanian flora, for the solution of which our section of the table-land ought to furnish a better field than any other, both on account of its elevation and the narrowness at this point of the valley separating us from the Alleghany foothills. Furthermore this table-land was the boundary of the ancient inland sea, which according to a favorite hypothesis with geologists, once existed over the whole area occupied by the great lakes and the low country adjoining, and which may have drained southwardly through several of the deep channels, the so-called preglacial valleys, continuing southwardly from most of our Central New York lakes. If this hypothesis is correct the North should have contributed some peculiar plant to our region as it has to Niagara, the present gateway of its waters. It is reasonable to suppose that a few would become permanent if the conditions were favorable. To the first of these problems we are not fully prepared to give an answer although we have visited the Alleghanies in Virginia and elsewhere for comparison of floras. Upon the second, more can be said and both are touched upon later in the discussion of the "Lesser Local Floras."

### The Maps.

*The Map of the Lake Region of Central New York.*—The title of this map sufficiently explans its chief object. It was also designed to show the relation of our own hydrographic basin to those surrounding it, and to furnish a convenient hand-map to those in adjoinlng counties, who are making field observations in botany. There is little about its construction that professes to be original. Within our own basin, however, the interesting marshes and higher hills and certain features of Cayuga Lake have been indicated, in addition to those given on the ordinary maps. The maps of N. Y. are notoriously inaccurate[1] as regards the exact geographical position of towns, and must be much more so in regard to streams, features always slurred over by commercial map-makers. As the above-named map was based on the French map and those of Asher and Adams' Gazetteer, the errors, except certain prominent ones in our own basin, could not be eliminated.

*The Map of Ithaca and Vicinity.*—This is designed for the use of collectors who wish to go out for a single day's excursion from the University. In its construction we took as a basis the excellent map of Cayuga Lake and its shores, constructed after a careful survey by the Engineering Department of this University, and we would thank the professors in that department not only for the use of this, but for additional measurements derived from the same source. Of the vari-

[1] See statement in Report of the N. Y. State Survey for 1876 and 1877, by JamesT. Gardiner.

ous local maps, we found that the maps showing the most nearly correct survey were those in the Atlas of Tompkins Co., by Stone and Stewart. These agreed so well with Professor Fuertes' map in respect to the ground covered by both, that the Atlas was used as a guide in completing our map. The Atlas is almost the only map giving the north line of Ithaca township correctly. The position of roads, railroads, schoolhouses, marshes, etc. were verified by personal observation, and town-boundaries by inspection of original records. The task of correctly representing the streams was considerable, as the existing maps were full of errors regarding them. All we can now say is, that after visiting these and making careful observation, we corrected a large number of errors and omissions, and our map is much more nearly accurate than the older ones. What every one must look forward to with expectancy, is the completion of the admirable State Survey now in progress under Mr. James T. Gardiner. With that as a basis there will be a possibility of making wholly accurate local surveys. It is believed, however, that such results will bring about few relative changes in our local map. We therefore feel justified in introducing in it a mechanical arrangement by means of which, as applied to this map, the exact location of any natural object may be briefly indicated on any label or permanent record in connection with our botanical or other natural history surveys. After various less satisfactory schemes to meet a long felt need of the writer, and his colleague, Professor Comstock, the latter devised a plan much more simple and useful than the ordinary system of squares applied to maps, and at the writer's request he drew up the following explanation of it, which was published in *Science*, Vol. VII, (1886), p. 352. "For the purposes of our local survey a well-known point on the University grounds is taken as a centre. Upon a map of this locality, a north and south line and an east and west line are drawn through this point. These lines are marked 0. Other lines are drawn parallel to these lines dividing the map into squares, each line indicating the distance of one kilometre, These lines are numbered, beginning in each case at the one next the zero line and reading toward the margin of the page. By means of roads, streams and other conspicuous objects, the position on the map, of any locality can be easily ascertained; and its distance north or south of one zero line, and east or west of the other, seen at a glance. It is only necessary to write figures indicating those co-ordinates upon a printed blank label to accurately indicate the locality. This label should have printed upon it the name of the centre of reference; it may also have letters indicating two of the cardinal points of the compass. In the latter case four sets of labels would be necessary. The following is an example:—

Cornell U. / N. E. } This filled out might read as follows: { Cornell U. / N. 23, E. 16½

This system was suggested to me by the way in which localities are indicated in the city of Washington."

The central point taken for our map, and one whose latitude and longitude are accurately known, is the Cornell University S. S. Observatory, located a short distance south of Morrill Hall. It makes the University

the center of all our future explorations and field observations in this region. Although the English measure has been used on the larger map, in the descriptive portion of this introduction, and in the elevations given, because all previous estimates have been in this measure, the Kilometre[1] is used on the smaller map. The metric system is used in the body of the catalogue and wherever practicable, for all our permanent scientific records.

In the catalogue, instant apprehension is desirable rather than brevity in the record, therefore the above system of abbreviations is but sparingly used to indicate localities. Certain woods and other localities, however, are often referred to but are not named on the map. We give these below:

Bates Woods, N. 4½, W. 4½.
Dart Woods, S. 3, E. 7.
Eagle Hill, S. 2⅛, E. 2¾.
Ferris Brook, (mouth) S. 1¼, W. ⅔.
Fleming S. House, S. 3½, W. 3¾.
Glen Pond, S. ½, W. ½.
Land-slide (S. M. Cr.) S. 2¼, E. ⅝.
McGowan Woods, S. ⅓, E. 2¾
Negundo Wds. S. 2½, W. 3.
"Nook" greenhouse, N. ¾, W. ¾.
Renwick Farm, N. 1 to 3, W. 0 to 5.
Rhodes Woods, N. 1⅓, E. 8.
Stevens Woods, N. 2, W. 3¾.
Valentine Brook, S. 1⅓, W. ⅓
Valley Cem., S. 4, W. 4¼.
[2] Willow Pond, S. ⅝, E. 0.

The necessary reductions and the draughting of the maps were principally accomplished by my friend and pupil, Mr. O. E. Pearce of the present Senior class, and the Department of Palæobotany at Washington. To his knowledge of botany was added familiarity with technical drawing and his faithful work I cannot too warmly commend.

### The Lesser Floras.

Naturally a larger Flora is made up of distinct regions each possessing its characteristic plants. They might be classified as follows:

1. *The Montezuma and Cayuga Marshes.* For convenience we might say the beginning of these marshes was at Farley's Point and Canoga, for here we first strike the peculiar plants of the marshes. These are *Hibiscus Moscheutos*, *Dianthera*, *Cyperus Michauxianus* and *C. Engelmanni*, *Spartina* or Cordgrass, *Panicum virgatum*, and formerly *Hippuris* and *Rhexia*. In addition to these, at Cayuga Bridge, appear *Phragmites* or the "Reed," *Nymphæa tuberosa*, *Mikania*, *Wolffia* and *Carex alata*. For the rest these marshes are made up chiefly of flags, sedges and coarse grasses, the most common being *Typha*, *Scirpus fluviatilis* and *Deyeuxia Canadensis*, which cover the perfectly level, prairie-like expanse for fifteen miles. It is the salt-springs and brackish soil about them, however, which afford the most unique group. The old Indian salt-springs described by Father Raffeix,[3] west of Cayuga Marshes and north of the Demont bridge, give us *Eleocharis rostellata;* and the several abundant springs at Montezuma, one near the canal and two near the banks of Salt Creek, together with their brackish meadows produce the following:

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[1] The Kilometre = 0.62138 mile.

[2] Elmwood Glen, Camp Warwick and Franklin's ravine, three ravines, either with summer camps or with cottages, occur in the order named north of King's Ferry, Cayuga Lake.

[3] See "Primitive Flora."

Ranunculus Cymbalaria
Chenopodium rubrum, (*Blitum maritimum*)
Juncus Gerardi
Zannichellia palustris
Scirpus maritimus
Panicum proliferum
Diplachne fascicularis, (*Leptochloa*)
Atriplex hastata, (with very red stems.)

We only need to find *Ruppia* in Salt Creek, and *Salicornia* and *Triglochin maritimum* to make our saline list equal to that of Onondaga Lake, as given by Clinton.

2. *Cayuga Lake Shore.* —The most characteristic plants of the lake cliffs extend only into the lower sections of the ravines at or near the head of the lake. A few are found fringing the rocks of the Neguæna and White Church valleys. Among the former are *Shepherdia*. *Symphoricarpus racemosus*, var. *paniciflorus*, *Neillia*, *Myosotis verna* and *Salix longifolia*. On the low sandy points on the lake shore, particularly on the limestone is found *Juncus alpinus*, var. *insignis*, while near by may be found *Astragalus Canadensis*, *A. Cooperi*, *Vicia Americana*, *Lathyrus palustris* and its var. *myrtifolius*, *Aster Tradescenti* and *Polygonum lapathifolium*. A group of introduced shore plants is interesting. It includes *Lythrum Salicaria*, *Scleranthus annuus*, *Linaria Elatine*, *Bidens bipinnata*, *Scabiosa australis*. *Lactuca Scariola* and *Polygonum nodosum*, the latter possibly native.

3. *Cayuga L. its Inlets and Outlet:* The aquatics of the lake are unusually luxuriant, and the forms perhaps more than ordinarily numerous. Those not found elsewhere in the Flora are *Myriophyllum verticillatum*, *M. heterophyllum*, *Naias marina* and its *varieties gracilis* and *recurvata*. The *Potamogetons* are especially luxuriant and abundant.

3. *The Alluvial Flood-plains and Creek-bottoms.*—These are the most sheltered spots in our whole Flora. The principal one is the Ithaca plain and its characteristic region is Negundo Woods, in aspect a bit of western river-bottom woods. Small ones occur at the mouths of ravines along the lake and even within the ravines. The soil is usually deep, rich and productive though sometimes gravelly. A few very rare plants belong to these levels, among them the more southern species of *Chærophyllum*, Box Elder, the Kentucky Coffee-Tree ; also *Arisæma Dracontium* and *Echinocystis* are found here. The Hackberry, the Downy and the Green Ash, the Bur Oak and Silver Maple, *Alnus serrulata*, *Staphylea*, *Mertensia Virginica* are characteristic of the long deep groove of the Cayuga Lake and Neguæna valleys but in rare cases they stray out of it. Here also are found all our willows—species and hybrids, excepting *Salix myrtilloides*, although they are not all confined to the alluvial tracts ; indeed no genus of plants so predominates in the valley excepting some of the *Gramineæ*.

5. *Ravines.*—These, a unique feature of our region, often bring together the plants of deep swampy woods, those of the alluvial bottoms, those of the exposed cliffs of the lake, those of the cold wet

cliffs of subarctic latitudes, and lastly the plants of the dry woods, usually found near the brink of the ravine, suggest those of the dry ridges of the Alleghanies; the latter we will place under the next heading. While the ravines shelter the rare *Clematis verticillaris*, *Quercus prinoides* (*tree form*) *Populus balsamifera*, *Polymnia Uvedalia*, *Blephilia* the two species of *Lophanthus*, *Monarda clinopodia*, *Carex Steudelii*, and a host of our common but most beautiful spring and summer plants, their most remarkable inhabitants are the plants of the wet cliffs few in number, but forming a significant group. They are *Pinguicula vulgaris*, *Primula Mistassinica*, *Saxifraga aizoides*, all growing together at Taughannock, the first two in Fall Creek, the first in Cascadilla ravine. They are always on the south wall, excepting one north side station in Cascadilla for *Pinguicula*. For *Pinguicula* and *Saxifraga*, our stations seem to be more southern than any other in America. *Primula* is found at the head of L. Keuka, whose latitude is a few miles south of that of Ithaca. To be classed with these is *Draba arabisans*, occuring in two small ravines on the east shore of Cayuga L. It is found in northern N. Y. and in Akron, Erie Co., N. Y., considerably north of our latitude. All the above are plants of British America extending to Hudson's Bay and Alaska.

6. *The Woodlands.*—The dry woods of this region, often appearing somewhat barren, really present us with an interesting group of plants. They occupy the knolls along the borders of our ravines, such as Fall Creek and Buttermilk Creek, but their peculiarities appear more striking perhaps on the so-called "pinnacles" of W. Danby and Caroline. Their characteristic trees are the Pitch Pine, Rock Oak Yellow Oak, occasionally the Scarlet Oak and Pignut Hickory. For undergrowth *Vaccinium stamineum*, *V. Pennsylvanicum* and *V. vacillans*, *Rhododendron nudiflorum*, *Ceanothus*, *Solidago squarrosa* and *S. bicolor*, *Gerardia pedicularia*, *G. quercifolia* and *G. flava*, *Gillenia trifoliata*, *Salix humilis*, *Panicum nervosum*, *Asclepias phytolaccoides*, the *Desmodiums* and *Hieracium venosum*. *Kalmia latifolia*, *Epigæa*, *Chimaphila umbellata*, *Chamælirium*, *Pyrola rotundifolia*, also occur, usually in woods somewhat more moist. The rare plants are *Pterospora*, *Oryzopsis Canadensis*, *Panicum xanthophysum*, *Deyeuxia Porteri* and *Lonicera glauca*, var. (the form 402 of the Cat.) *Myrica Comptonia* is occasional.

Of the damp woods, those crowning the higher hills, in some cases pass into those just mentioned, but present in addition a sprinkling of more northern plants. *Habenaria orbiculata* will be found in them sparingly and in woods of this character on the summits of the high hills of Danby and Caroline. occur our only specimens of the rare *Pogonia verticillata*, none of our specimens yet found in flower.

Passing over the woods of beech and maple abundant in the eastern the eastern section of our basin, also the swampy woods and swamps of black-ash and elm which cover extensive tracts north of Forest Home we shall find in the swampy woods of hemlock, often surrounding the sphagnum swamps of Dryden, etc., some beautiful species. In the drier portions are *Viburnum lantanoides*, *Trillium erythrocarpum* *Cypripedium acaule*, *Cornus Canadensis*, *Clintonia*, *Viola rotundifol-*

*ia* ; while among the green, luxuriant mosses of the low places occur *Cypripedium pubescens*, *Mitella nuda*, *Habenaria fimbriata*, *Coptis*, *Calla*, and rarely *Corallorhiza innata*, *Microstylis monophyllos* and *Trillium cernuum*. There is a gradual transition from swampy woods of this character to the deep swamps containing sphagnum.

7. *Sphagnum Swamps and Open Peat-bogs.*—Of the first there are fifteen or more, including the springy tracts where sphagnum occurs in some abundance. None of these are extensive, and many are overgrown with *Nemopanthes* and *Vaccinium corymbosum*, or in a few cases with Tamarack and Black Spruce. In openings in these we find the royal flowers of *Cypripedium spectabile*, also *Chiogenes* the *Eriophorums*, *Drosera*, *Habenaria dilatata*, *Spiranthes Romanzoffiana*, and often great masses of *Trollius*. Some of the same species occur in the sphagnum about the remarkable springs which gush out in great numbers from the drift-banks or the terminal moraines near Mud Creek, near Malloryville, near the Round Marshes and Rake Creek, in the valley north of Dryden Lake, near Brookton and W. Danby.

The Open Peat-bogs are few in number and are gradually passing over into the sphagnum swamps ; the Freeville Peat-bog, the Malloryville Marsh and several of the Round Marshes, Larch Meadow,—now drained,—the pond-marsh southeast of Chicago sta. belonging to this type. The Round Marshes, two miles east of McLean, are the most interesting of the group mentioned, principally because the fine old woods of hemlock and birch surrounding them have been most happily preserved by the owners. The marshes consist of a chain of five small peat-bogs, separated by swampy tracts, also a half-sphagnum, natural meadow with sedges, orchids, *Menyanthes* etc., surrounding a large spring-pond. Bordering the meadow are a considerable number of the *Populus balsamifera*, *var. candicans*, probably planted by the first settler of McLean whose cabin was built near the spring in the notch hard by. North, through Gracie's swamp, runs Beaver Creek derived from the numerous springs of this region. The plants of the Open Peat-bogs are better marked as a group, than those of any of the other lesser Floras. They are too well known to need mention, and chiefly belong to the *Ericaceæ*, *Orchidaceæ*, *Cyperaceæ*, and are mostly of northern origin. *Sarracenia* occurs in all and *Menyanthes* in nearly all, *Salix myrtilloides* and *Arethusa* are peculiar to the Freeville bog and *Eriophorum alpinum* to the Round Marshes.

8. *The Water-shed Marshes and Ponds.*—These marshes often exhibit a combination of the floral characters of the several marshes and swamps described. So far as our present knowledge goes the following plants are peculiar to their respective localities: *Potamogeton Spirillus* to Cayuta L., *Potamogeton obtusifolius* and *Glyceria Canadensis* to Summit Marsh, *Rhododendron maximum* and *Goodyera Menziesii* to Michigan Hollow, *Carex capillaris* to the Marl Ponds, *Myrica Gale* to Locke Pond, beside those mentioned at the end of the preceding section.

9. *West Junius.*—Newton's two ponds, Lowery's two ponds and a fifth west of these, lie in a sandy rolling country of entirely different

character from the Ithaca region. They are in reality very large springs from which are always pouring large brooks of cold water. Their united waters flow north to the Clyde River. Beyond a sandy ridge and a few rods south of the ponds, is a Tamarack swamp extending to the Pout Pond, the outlet of which is Black Brook flowing south into the Seneca River, west of Waterloo. These are, therefore, watershed marshes and ponds half-way between the Cayuga and the Clyde River water-systems. The following plants are found in the marshes about these several ponds,—excepting the last eight, which occur in damp sandy soil not far away,—and have not been observed in the Cayuga Flora proper :

Drosera intermedia, var. Americana.
Valeriana sylvatica.
Solidago Ohioensis.
" neglecta, var. linoides.
Utricularia cornuta.
Gentiana linearis.
Bartonia tenella.
Habenaria blephariglottis.
" ciliaris.
Triglochin palustre.
Scheuchzeria palustris.
Rhynchospora capillacea.
Scleria verticillata.
Carex Buxbaumii.
" chorhdorhiza.
" decomposita.
" disticha.
Tephrosia Virginiana.
Baptisia tinctoria.
Kalmia angustifolia.
Pycnanthemum lanceolatum.
Cyperus filiculmis.
Carex monile.
Panicum microcarpum.
Dicentra eximia?

*Gerardia purpurea*, *Gentiana crinita*, *Thuja*, *Habenaria tridentata*, *Arethusa*, *Eleocharis rostellata*, *Cladium*, *Carex alata*, *Corydalis glauca*, *Galium pilosum*, *Andromeda ligustrina*, *Myrica cerifera*, although elsewhere in our limits, are rare, and are inhabitants of West Junius. The ponds and their marshes where occur this odd combination of Atlantic coast and northern species, are like a little section from Bergen Swamp, Genesee Co. Considering their very limited area they contain as interesting a flora as any other region in our state.

### The Affinities of the Cayuga Flora.

Without doubt it is closely allied to the plants of that vast area including the Ohio valley, the Great Lakes and a part of Canada. Our territory of course, skirts the southern or southeastern side of this, just where it sweeps round toward its northern terminus. The number of species which find their eastern or southeastern or southern limit with us will furnish something of a test of our relation to that region. After a careful review it is found that at least fifteen species having a western and southwestern distribution find their limit within our territory. Among these are *Jeffersonia*, *Gymnocladus*, *Solidago Ohioensis*, *Carya sulcata*. That some of these are found farther east, as near Oneida L., does not interfere with the general truth stated, viz., that they do not pass beyond us into Susquehanna basin so far as known. There are thirteen species having a decidedly northwestern, northern or northeastern range which have their southern terminus here.

These are:

Goodyera Menziesii,
Draba arabisans,
Saxifraga aizoides,
Lonicera oblongifolia,
Petasites palmata (probably),
Pinguicula vulgaris,
Primula Mistassinica,
Populus balsamifera,
Juncus alpinus, var. insignis,
Eleocharis pauciflora,
Carex gynocrates, (at Savannah),
" capillaris,
" Œderi.

The following apparently have their limit of distribution here but probably extend into the mountainous parts of Pennsylvania.

Viola renifolia,
Valeriana sylvatica,
Spiranthes Romanzoffiana,
Carex Deweyana,
Carex longirostris,
" pauciflora,
Cinna pendula,
Poa debilis.

The very remarkable sub-arctic group,—*Primula* and others,—may have been driven down here by the ice-sheet and have retained their foothold after its recession, finally retreating to the shaded wet walls of the ravines which were then forming, where they now remain, isolated from the home of the species. Several species are curiously modified in form and appearance, so as to resemble—according to a well-known biological law,—related species whose center of distribution is in this region. Such is the case with *Carya sulcata*, *Viola renifolia* and *Juncus alpinus*, var. *insignis*.

There are also visible traces in our flora of a connection with the Alleghanian plants. The best evidence is in the characteristic, common plants of the dry woods and ridges enumerated under the Lesser Floras. Indeed to any one familiar with the mountains of Virginia the correspondence is most striking. A few rare plants of Alleghanian origin probably find their northwestern limit with or but little north of us. These are *Dicentra eximia*, *Magnolia acuminata*, *Prenanthes serpentaria*, *Deyeuxia Porteri* and *Rhododendron maximum*. *Hydrangea arborescens*, found near Wellsburg on the Chemung R. and even in Warsaw Glen by Dr. Jordan, also by Miss Ross, will probably be found in our flora. There are a considerable number of species with a general southern range which disappear before they reach our northern limits. I have enumerated fifteen such, the most interesting of which are *Negundo aceroides*, *Agrimonia parviflora*, *Coreopsis discoidea*, *Polymnia Uvedalia*, *Potamogeton obtusifolius*, *Juncus marginatus* and *Cyperus Engelmanni*. That the Appalachian system has long interposed itself between us and the coast is evidenced by the few species peculiar to that region which terminate within our limits. *Solidago neglecta*, *var. linoides*, and *Andromeda ligustrina* with possibly *Carex glaucodea* are the only indigenous species recognized as belonging to that class.

It is believed that the following local species have not been reported from elsewhere in New York: *Goodyera Menziesii*, *Carya sulcata*. *Potamogeton obtusifolius*, *P. Hillii*, *Carex capillaris*, *Deyeuxia Porteri*, *Panicum nervosum*, *Polygonum nodosum*.

## The Primitive Flora.

That the basin of Cayuga Lake was originally densely forested over three-fourths of its area, there can be little doubt. It also seems clear that the Cayuga tribe of Indians who were either occupants or overlords of all the territory within, and far south of our limits, had many cleared fields at the time of the arrival on the shores of our lake, of the Jesuits, Father Joseph Chaumonot and Father René Ménard, in Aug. 1656. Although they dwelt among the Indians until the remarkable flight of all the missionaries in Mar. 1657, before the supposed conspiracy of the League; and although they wrote voluminous letters of their life, their trials, their hopes and their failures, there is scarcely a word upon the aspect of the natural world which surrounded them. The mission at Cayuga was restored in 1668, and Stephen de Carheil remained there till 1684, when he was driven out by two Cayuga chiefs. Still we should know nothing of the region had not a Jesuit, Father Raffeix, who evidently had an observant mind, taken de Carheil's place, during a temporary absence of the latter. He was a man of wide experience and had visited the other tribes of the League in their own homes. He writes in the *Relations* for the year 1671–72, (Quebec Ed. p. 22): "Cayuga is the most beautiful country I have seen in America. It is situated in latitude 42½, and the needle dips scarcely more than ten degrees. It is a country situated between two lakes[1] and is no more than four leagues wide, with almost continuous plains bordered by beautiful forests. Agnie, (the country of the Mohawks), is a valley very narrow, often very stony, and always covered with fog; the hills which enclose it seems to me to be very poor land. Oneida and Onondaga, as well as Seneca, appear too rough and too little adapted to the chase. Every year in the vicinity of Cayuga more than a thousand deer are killed. Four leagues distant from here[2], on the brink of the river (Seneca outlet) are eight or ten fine salt fountains, in a small space. It is there that numbers of nets are spread for pigeons, and from seven to eight hundred are often taken at a single stroke of the net. Lake Tiohero, one of the two which join our canton, is fully fourteen leagues long and one or two broad. It abounds in swan and geese all winter, and in the spring one sees a continuous cloud of all sorts of game. The river which rises in the lake, soon divides into different channels enclosed by prairies, with here and there fine and attractive bays of considerable extent, excellent places for hunting." It is not difficult to picture to one's self the country here described. The marshes were as they are now, while all the country about, used by the Indians for the purpose of deer-stalking, was made up of "continuous plains" (the "oak-openings") bordered by the forest. The openings were kept clear by the Indians, by annually burning them over. These openings were described

[1]Owasco and Cayuga Lakes.

[2]He wrote from *Goiogoüen* or Cayuga, a town on the bank of Big Gully, and refers here to the salt springs north of the old Demont tavern and bridge, west side of Cayuga marshes.

by President Dwight in his tour through Western New York, 1822.[1] Greenhalgh in his Journey "from Albany to ye Indians westward," 1677, says of the Cayugas: "they have abundance of corne," which implies of course cleared fields near their villages, at the foot of Cayuga Lake. But the universal testimony is that the forests became very much denser and more tangled near the head of the lake and throughout the country south. The Cayugas made frequent excursions through this country southward to the Susquehanna, and they are spoken of in Hiawatha's decrees as the people whose "habitation was the dark forest," their country being much more densely wooded than Onondaga. John Bartram, a Pennsylvania Quaker and most excellent botanist, a keen observer and the most delightful of letter-writers, made a journey to Onondaga in 1743, passing up the Susquehanna to Owego Creek. He then passed through the forest probably traversing the east part of Tompkins Co., and the western part of Cortland Co. He at first passed "over fine, level, rich land" with "oak, birch, beech, ash, spruce, linden, elm, hepatica, and maidenhair in abundance." Then he struck "swampy land, then thickets, and on the hills, spruce and white pine." Reaching level ground—perhaps near the present site of Cortland—he found it "full of tall timber of sugar-maple, birch, linden, ash, beech, and shrubs of opulus, green-maple, hornbeam, hamamelis, Solanum, gooseberries and red currants." He describes the tops of the trees as so thick and interlacing that it is "impossible to see which way the wind drives or the clouds set." He next reached the dividing ridge where he found chestnut and cherry in addition to the other trees; and toward Onondaga they found many "oaks, hickories, plums and apple-trees full of fruit."

This corresponds well with the present distribution of species, so far as the hardwoods are concerned. From Dr. Parker and other residents of Ithaca, whose recollections reach back to 1830 or 1835, we know that the tracts of white-pine now wholly cleared away, were extensive and well-defined. There was a heavy growth of it in Enfield stretching up for a long distance between the lakes. It descended into the Neguæna valley near Buttermilk Falls, covered the top of South Hill, extended back in several well defined tracts through Danby and Newfield and occupied portions of Neguæna and other valleys. The pine was particularly heavy about Summit Marsh. There were also large tracts in the upper part of Cascadilla valley, on Turkey Hill, and the pine-land extended north in narrow belts from this region, penetrating the tracts of elm and maple of that region. About Ithaca on the hills were "openings" of oak and hickory and on both shores of the lake, these with other hardwoods prevailed. In the valley near Ithaca, near Buttermilk Falls, and on both shores of the lake there were apple-orchards, and cleared fields, cultivated by the Indians. On the bank near the Fleming schoolhouse was an Indian town called Coreorganel, destroyed by Sullivan's army in 1779, and about the site Indian apple-trees existed

[1]Dwight's Travels, 1822, Vol. IV, p. 58.

dowy to a comparatively recent date. Although the Moravian missionaries, and particularly Bishop David Zeisberger, traversed this valley not infrequently, as early as 1750, it was not settled by white men till 1789, so that all the changes in vegetation which have taken place have come about in less than a century.

### Sketch of the Explorations.

The first professional botanist to penetrate any portion of this basin was John Bartram, whose journey to Onondaga in 1743, was described above. His journey was not primarily a botanical one, and his book entitled: "Observations on the Inhabitants etc., in Travels from Pennsylvania to Lake Ontario," was printed in London, 1751, and is now a rare work.

Not many years after Peter Kalm, Professor of Œconomy at the University of Aobo in Swedish Finland, a friend of Linnæus, was sent over by the Swedish government, to collect seeds and plants for the gardens and herbaria of that country. He collected extensively in Pennsylvania, New Jersey, New York and Canada from 1748 till his return in 1751. During 1750 he made a journey "along the Mohawk to the Iroquois nations, where he got acquainted with the Mohawks, Oneidas, Tuscaroras, Onondagas and Kayugaws." His "Travels into North America," were published soon after his return and translated into English in 1772; but while he gives minute accounts of some of his experiences, his journey to, and life among the Six Nations is scarcely touched upon in these volumes. His collections which were very valuable went very largely into the Linnæan Herbarium, now in England.

Frederick Pursh, another European explorer, passed through Ithaca in 1807. He left a record of his journey, which was overlooked until 1868, when it came to light in Philadelphia among some papers in the possession of the Amer. Phil. Society. It was published in the Gardener's Monthly and afterward in pamphlet form. The following literal extract from Pursh's *Journal*, is of some general interest, but chiefly so in revealing the abundance of introduced plants even at that early day. He found nothing of importance in our region. His nomenclature will seem at the present time quite antiquated, and his English is somewhat broken :

"July 6.—[1807.] — Left Tyoga, up Cayuta Creek—Apocynum andrasæmifolium very plenty in the cleared lands ; in the oak woods I observed the Lily often seen before, but I cannot reccollect which species it is ; it is Lilium foliis sparsis verticillatisque : caulle unifloro ; floribus erectis, semipatentibus ; petalis unguiculatis. The valley, formed by Cayuta Creek is in soil and vegetation similar to the beechwood. Oxalis acetosella—but not plenty—Helleborus viridis. Dracæna borealis,—Orchis fimbriata in full bloom—Dalibarda violoides in fruit. The woods abount with sugar-maple ; The valley is in some places very narrow and the creek very winding which obliged me to wate it several times to keep the road—I heartyly expected to reach the house this night, which had been recommended to me, to stay at, but I dit come to it before it got dark. I observed in a small run a species of Sium, as I suppose, without flowres, whose leaves under the water were very fine divided and the upper ones only pinnate. I call it S. heterophyllum. From a small tavern wheeh is kept

here, is about 22 miles to the head of Cayuga, which I intend to reach to-morrow.

7.—Having opportunity of going in company of a wagon, who would carry my things, I set out early this morning. The road leads through a very romantick valley, the mountains sometimes very high. After following the course of Cayuta Cr. for 9 miles, we turned off to the right. 8 miles this side of Cayuga city, or as it is called sometimes, Ithaca, we crossed a place very beautifully situated, called Sapony[1] Hollow; this place has been once cleared and probably settled by Indians, but it is now grown up with small, white pine very handsomely mixed with Populus tremuloides and Magnolia acuminata. The last is very scarce about here and the trees here in this place and two or three others I seen are of a creeply, small and old growth, nothing like to what they are in Virginia. At this place we refreshed ourselves and feed the horses, as far as this I had this day travel very agreeable, as on account of the roughness of the road and the deep mire holes in some places the wagon could not go on as fast as I could walk, having plenty of time to look about myself, besides being unincumbered with any baggage. But the road getting now good and evening drawing nigh, I had to get into the wagon and we travele l tolerably fast. About 3 or 4 miles from Sapony Hollow, the timber changes into oak, and from there to Ithaca it is all Oak timber mixed with pine, with the rest of plants similar to Tyoga point. We arrived at Ithaca at night-fall.

8.—Being now on the heath of Cayuga I remembered your information about Erica cærulea growing on the high lands between Cayuga and Seneca lake; I was very anxious of seeing this plant in its native place, but having not received the particular directions to find the place, as I had been promised of, besides that, being rather afraid of running myself out of money necessary to come to Onondaga, as my pocket was low and the distance considerable, I had to my own mortification, to give up all Ideas of a search for it.[2] The morning was rather suspicious for rain, as it had rained some all night, I was detained at Ithaca until 11 o'clock, when I set out for the lake, which is only two miles distance. My route was going on the east side of it. After having crossed Cayuga Creek, with a great deal of difficulty to perform it, and coming on the rising grounds, on the other side, I heard a very strong noise of falling water: I followed the sound and came to one of the most romantick and beautiful falls of this creek, I had ever seen; the access even only to a sight of it is very difficult; but regretted very much that I had not had the least information about these falls at the town, as I should have made it my business to visit them unincumbered with my baggage, that I might have spent the day by it. The ledge of rocks confined in a very narrow cove, and surrounded by very high hills; impossible to ascend with a load on my back on account of steepness; over which this considerable stream drops itself down, is a very interesting scene, and I doubt not if time and opportunity had allowed me to make an examination of it, I might have been paid for the trouble with something or other interesting or new in my line; but to go back to the town I thought to be too much; so I had to go on and be satisfied with having had only a peep at it. I got into my road again, where I

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[1] Now called "Pony Hollow." Sapony Hollow is the only nominal relic in this region,—their last home,—of a once large tribe of Indians called Catawbas or Saponies, formerly residing in Virginia and North Carolina. There is indirect evidence that this last remnant sought protection of the Cayugas, and settled in this valley about 1753. Coreorganel was their principal town, and their burial places were near that village, also north of Buttermilk Falls and on the bluff near Dr. Parker's, East Hill, Ithaca. As a nation they were utterly extinguished by Sullivan's army as it swept over them, Sept., 1779.

[2] The supposed occurrence of Erica, (or Bryanthus taxifolius,) in this region, was, of course, a mistake.

observed along the banks of the creek plants of Pentstemon pubescens, About a mile farther I came to the bank of the lake. The shore which I came to was clear and gravelly with some common weeds growing near it as thistles, mulleins, etc. I followed the shore of it for several miles, being in my route. It is generally covered with oak, maple and hickory Buphthalmum heleanthoides is the first yellow Syngenesia plant I seen this year, Taraxacum excepted. A A small Rose, similar to the one I called last year R. monticola, is very plenty here and spreads a most agreeable fragrance through the air. A species of Cratægus, Ludwigia nitida, Ceanothus Americanus. Lilium Canadense, Apocynum androsæmifolium, with a tall Molugo? Orchis fimbriata, Cornus with white berries, Erigeron corymbosum, Typha angustifolia, Smyrnium cordatum, Mimulus alatus, Galium hispidum, Veronica scutellata and some more common plants, I observed in the meadows leading to the lake. I traveled as far as the town of Milton, where I stood over night. The road, as soon as I had left the banks of the lake began to be quit of interest, as the fences of both sides and cultivated fields, with continued plantations and farms occasioned the road only to be covered with common weeds, amongst which the Verbascum thapsus, Anthemis cotula, and Polygonum hydropiper, have the upper hand. In one of the woods on this road I collected specimens of Niphrodium filix-mas? [1]

David Thomas, who came from Pennsylvania in 1805, and settled in Cayuga Co. near Aurora, was at first a teacher, and afterward the engineer of the western division of the Erie Canal during its construction. He had an extensive botanic garden at his place east of Levanna and was an enthusiastic botanist as well as cultivator of plants. He was the first to distinguish and describe *Ulmus racemosa*, which he did in the Amer. Jour. of Sci. Vol. XIX, p. 170. The plates of this and those of the Dicentras in Vol. XXVI, were drawn by his son John J. Thomas, who made an extensive collection of the local plants in 1827, when he was seventeen. This herbarium is still well preserved and is frequently referred to in this catalogue. Some of the specimens are very valuable, in showing the character of the ealier flora. For the great kindness of Professor Thomas in going over with this herbarium in the writer's presence and stating many interesting facts, the latter wishes here to make due acknowledgement.

Dr. Aikin, a young medical student and pupil of Professor Amos Eaton, visited this region about 1830, and reported several rare plants. Dr. Jedediah Smith of Geneva, Dr. Alex. Thompson of Aurora, Dr, H. P. Sartwell of Penn Yan and Dr. S. B. Bradley of Greece all botanized more or less within our limits, and discovered many interesting things. Dr. Asa Gray, in 1831, visited the Montezuma Marshes and this lake, stopping at Sheldrake, and finding two rare plants *Pogonia pendula* and *Linaria Elatine*. In Seneca Co., probably, he obtained *Goodyera Menziesii*. He visited Ithaca but did not remain long. Rev. J. W. Chickering and Prof. W. H. Brewer collected several hundred specimens between Cayuga and Seneca Lakes, while they were teachers at Ovid.

From 1860 to 1865, the Hon. H. B. Lord reported a considerable

[1] As Pursh elsewhere refers to Nephrodium marginale, the nearest relative of N. filix-mas, no doubt the one above mentioned was Aspidium Goldianum, a species not then described, but which is in his herbarium under the name of N. filix-mas, from an unknown American locality.

number of interesting plants and having been a resident of Ludlowville and Ithaca for many years he has given the younger generation of botanists very material aid in regard to localities and rare plants. He was particularly interested in *Carices* and gave to the University a valuable local collection, at the time of its opening. His name often occurs in this catalogue, but not nearly so often as his intimate and accurate knowledge of our plants would deserve.

At the opening of Cornell University in 1869, Professor A. N. Prentiss of Michigan Agr. Coll. was made Professor of Botany and Horticulture, and in spite of his administrative and other duties, has always manifested great interest in the development of the local flora. Under his careful guidance several special students, among them Mr. Theo. B. Comstock and Mr. David S. Jordan, both occupying prominent college positions at present, became deeply interested in the explorations and the latter summarized during his Senior year (1872), the results of his own experience and that of his friends in a manuscript catalogue. This was compiled from memory, and largely without the aid of preserved specimens and therefore contained some errors. But after throwing these out it still shows about 650 species. In this catalogue were 33 species of Carices, 35 species of Grasses, 6 Willows and 79 Compositæ.

There was at that time a group of men in the University who were strongly interested in botany and who never ceased to keep up that interest. These were Messrs H. E. Copeland, W. A. Kellermann, J. C. Branner, and the writer. Soon after these men left college, there came an excellect botanical student, Mr. F. B. Hine, whose name is mentioned frequently in the following pages. Then came Messrs. William Trelease, F. H. Severance and Charles Atwood, who added to our knowledge of the flora. Especially associated with my own work of exploration in 1881 and 1882, Mr. F. Cooper Curtice, now of the U. S. Geological Survey, rendered most efficient aid by his excellent observing powers.

The names of Mrs. Professor Brun, Miss I. Howland, Mr. F. L. Kilborne ; and among recent students, Mr. O. E. Pearce, Messrs. A. L. and F. V. Coville will be found after their discoveries in the following catalogue indicating in a slight way the aid they have rendered in voluntarily reporting localities or specimens.

Although the writer compiled a manuscript catalogue in 1876, containing 950 flowering plants, and has written out special catalogues of the Compositæ, Gramineæ and Vascular Cryptogamia, since that time his work on the flora for the past five years has been more systematic than before. He has kept slip records of the occurrence of every plant noticed on the numerous excursions made, providing there was any reason for supposing the plant was in the least uncommon. In some cases, as in some of the orchids and sedges these separate entries for distinct localities have been fifty or seventy-five, in other cases comparatively few. That the number of discoveries of species alone, new to the flora, has been 510 more than the number in Dr. Jordan's catalogue is in itself significant of the industry of the survey.

### Statistics of the Catalogue.

The following tables show at a glance certain general as well as special facts in regard to the composition of our flora as it is set forth in the following catalogue. As the numbers in the catalogue are prefixed to both species and varieties, and also to a few forms unnamed, but which will probably be regarded as varieties when better known, and as some of the more important of recent catalogues use the same system of numbering, the following summaries will be based on that system and will include both forms. In certain important analyses, however, the species and varieties will be distinguished from one another.

It will be noticed that the catalogue includes several groups of specific and varietal names; these may be tabulated as follows:

| | | |
|---|---|---|
| I. Species native to the Cayuga Flora | 963 | |
| II. Species introduced in the Cayuga Flora | 197 | |
| Total number of species | | 1160 |
| III. Varieties—native and introduced | 118 | |
| Total of numbered species and varieties | | 1278 |
| IV. Species spontaneous but not established | 53 | |
| V. Species in Seneca and Keuka Flora not in the Cayuga | 42 | |

No attempt has been made to enumerate the plants we have in excess of those known in the Seneca and Keuka region. That could be done by counting up the species of the catalogue which are followed by "H" or "C," or both; but the comparison would not be wholly fair until after a systematic exploration of that region, especially in certain districts which have been quite neglected.

The following tables include only the numbered forms of the catalogue,—genera, species and varieties,—and have nothing to do with those names without numbers.

SYSTEMATIC DISTRIBUTION.

| | Genera. | | Species and Varieties. | |
|---|---|---|---|---|
| Polypetalæ | 162 | | 381 | |
| Gamopetalæ | 146 | | 350 | |
| Total Dichlamydeæ | | 308 | | 731 |
| Apetalæ, (Monochlamydeæ) | 45 | | 133 | |
| Total Dicotyledons | | 353 | | 864 |
| Monocotyledons | 101 | | 403 | |
| Gymnospermæ | 8 | | 11 | |
| Total Phænogamia | 462 | | 1278 | |

COMPOSITION OF THE PRINCIPAL ORDERS.

These are numbered according to the aggregate of *species and varieties* in each.

| | Orders. | Genera. | Species. | Species and Varieties. |
|---|---|---|---|---|
| 1 | Cyperaceæ . . . . | 9 | 120 | 151 |
| 2 | Compositæ . . . | 39 | 112 | 125 |
| 3 | Gramineæ . . . . | 44 | 93 | 107 |
| 4 | Rosaceæ . . . . . | 17 | 57 | 69 |
| 5 | Leguminosæ. . . . | 17 | 42 | 45 |
| 6 | Ranunculaceæ . . | 12 | 34 | 36 |
| 7 | Orchidaceæ . . . | 13 | 35 | 35 |
| 8 | Ericaceæ . . . . | 16 | 30 | 35 |
| 9 | Cruciferæ . . . . | 14 | 31 | 34 |
| 10 | Naiadaceæ . . . | 20 | 25 | 34 |
| 11 | Labiatæ . . . . . | 5 | 30 | 33 |
| 12 | Scrophulariaceæ . | 14 | 29 | 29 |
| 13 | Polygonaceæ . . | 2 | 26 | 28 |
| 14 | Salicaceæ . . . . | 2 | 26 | 28 |
| 15 | Liliaceæ . . . . . | 17 | 27 | 27 |
| 16 | Umbelliferæ. . . . | 17 | 22 | 24 |
| 17 | Caprifoliaceæ . . | 7 | 20 | 22 |

THE PRINCIPAL GENERA.

The following are arranged according to the number of *species and varieties* in each.

| | Genera. | Species. | Species and Varieties. |
|---|---|---|---|
| 1 | Carex . . . . . | 84 | 112 |
| 3 | Potamogeton . . . . . | 20 | 27 |
| 3 | Aster . . . . . | 18 | 24 |
| 4 | Salix . . . . . | 16 | 22 |
| 5 | Polygonum . . . . . | 19 | 20 |
| 6 | Solidago . . . . . | 16 | 18 |
| 7 | Panicum . . . . . | 13 | 17 |
| 8 | Juncus . . . . . | 11 | 15 |
| 9 | Ranunculus . . . . . | 14 | 14 |
| 10 | Viola . . . . . | 12 | 14 |
| 11 | Scirpus . . . . . | 11 | 13 |
| 12 | Habenaria . . . . . | 11 | 11 |
| 13 | Prunus . . . . . | 10 | 10 |
| 14 | Galium . . . . . | 8 | 10 |

In *Carex* and *Salix*, the few hybrids occurring are classed provisionally with the varieties.

COMPARISON WITH OTHER FLORAS.

It will be instructive to compare the results of our explorations with those exhibited in other, similar catalogues. For this we have selected several catalogues of certain representative sections of the State of New York, and a few well-known catalogues of more distant regions, where the work has been measurably thorough. Those selected from N. Y. are: 1. "*Plants of Oneida Co. and Vicinity;*" by John A. Paine, Jr., 1864; printed in the 18th Annual Report on the State Cabinet. This was a valuable catalogue, but covered in reality nearly the whole State, excepting the southeastern and the Adirondack regions. 2. "*Plants of Buffalo and Vicinity;*" by the Buff. Soc. of Nat. Hist., 1882. It includes the plants within a radius of thirty miles of Buffalo. 3. "*Plants growing without cultivation within five miles*

*of Pine Plains, Dutchess Co., N. Y.;*" by Dr. L. H. Hoysradt, 1875. 4. "*Plants of Suffolk Co., L. I.;*" by E. S. Miller and H. W. Young, 1874. Of these, the most suitable for comparison are the last three, as they represent definitely outlined regions; the Buffalo list and the Suffolk Co. list covering, of course, territorsies having very marked characters. The other catalogues selected are Ward's "*Flora of Washington and vicinity*," 1881; Robinson's "*Flora of Essex Co., Mass.*," 1880; and the "*Catalogue of Plants growing within thirty miles of Yale College*," 1878. In all cases the total numbers given below refer to Phænogamia only. In comparing our own list with the others mentioned, it may be safely said that the comparison is as fair as such things can be in the present state of our knowledge. The area covered—about sixty-five miles in length by an average of eighteen in breadth—is equal to the average of those in table below. There are no true mountains within the limits of any, although the interesting little Flora of Pine Plains includes some of the spurs of the Taconic range. On the other hand, that Flora has no true saline or shore plants such as most of the others possess. It has, however, a curious mixture of the plants of the cold marshes and mountain-slopes of the north and those of the Atlantic coast.

| Catalogue. | Total species and varieties. |
|---|---|
| The Cayuga Flora, . . . . . | 1278 |
| Plants of Buffalo, etc., (with addend.) | 1277 |
| Plants of Oneida Co., etc. . . . . | 1390 |
| Plants of Dutchess Co. . . . . | 1067 |
| Plants of Suffolk Co. . . . . | 852 |
| Flora of Washington, etc. . . . . | 1211 |
| Flora of Essex Co. . . . . | 1257 |
| Flora of Vicinity of Yale College, . . | 1238 |

It should be stated in regard to the latter list, that it does not include among its numbers the varieties mentioned in the body of the work. Although a greater or less number of new discoveries have been added to most of the above lists since their publication, no account is taken of such, excepting in the case of Buffalo Catalogue, the facts not being accessible.

It will also be interesting to compare two of the larger genera, two of the representative Atlantic coast genera and a representative northern genus, in respect to the abundance of species in different sections.

| Genus. | Floras with the number of species and varieties in each. | | | | | |
|---|---|---|---|---|---|---|
| | Cayuga. | Buffalo. | Oneida Co. | Pine Plains. | Suffolk Co. | Washington. |
| Carex, . . . . . | 112 | 80 | 130 | 102 | 33 | 70 |
| Aster, . . . . . | 24 | 24 | 29 | 20 | 20 | 21 |
| Eupatorium, . . . . . | 4 | 3 | 6 | 4 | 10 | 12 |
| Utricularia, . . . . . | 4 | 3 | 6 | 3 | 9 | 2 |
| Habenaria, . . . . . (incl. Perularia.) | 12 | 10 | 16 | 9 | 3 | 4 |

The following is a comparison of the larger Orders:

| Order. | No. Species and Varieties. | | | | | | |
|---|---|---|---|---|---|---|---|
| | E. U. S. | Cayuga. | Buffalo. | Oneida. | Pine Plains. | Suffolk. | Washington. |
| Cyperaceæ, | 357 | 151 | 115 | 187 | 138 | 79 | 108 |
| Compositæ, | 497 | 125 | 151 | 141 | 109 | 119 | 149 |
| Gramineæ, | 297 | 107 | 95 | 110 | 92 | | 110 |
| Rosaceæ, | 104 | 69 | 55 | 62 | 48 | 35 | 46 |
| Leguminosæ, | 208 | 45 | 47 | 54 | 34 | 41 | 57 |
| Ranunculaceæ, | 80 | 36 | 39 | 36 | 27 | 17 | 27 |
| Orchidaceæ, | 71 | 35 | 35 | 42 | 30 | 15 | 24 |
| Ericaceæ, | 89 | 35 | 29 | 29 | 33 | 28 | 26 |
| Cruciferæ, | 76 | 34 | 37 | 32 | 27 | 32 | 34 |
| Labiatæ, | 121 | 33 | 43 | 40 | 27 | 31 | 42 |

The above estimates for the Eastern United States (E. U. S.) are taken from Ward's "*Flora of Washington.*"

The woody plants including woody vines, such as *Clematis* and *Menispermum*, and excluding, *Chimaphila*, *Gaultiera*, etc., are given below. Only so-called species are considered and are compared with the numbers in Sargent's Forest Trees of North America, Vol. IX, of the Tenth Census.

| | Cayuga Flora. | The U. States. | Atlantic Region. |
|---|---|---|---|
| Total No. of species | 206 | | |
| Native species. | 175 | | |
| Introduced species. | 31 | | |
| Native, arborescent species | 80 | 412 | 292 |
| Introduced " " | 18 | | |

No attempt is made to compare the number of plants in our region with that of the whole state. Dr. Torrey's last estimate,—about 1853,—was 1537 species for the state of N. Y.; but, considering the large number of plants introduced since then, as well as the discoveries of native species, and knowing that we cannot always rely on mere printed reports, we do not think an accurate estimate can be made except by some one who is personally familiar with the different sections of N. Y.

### Explanation of the Plan of the Catalogue.

1. Localities are given, so far as known, in case of "rare" or "scarce" plants.

2. Localities are occasionally given for species not rare. Such cases are indicated by adding the words, "and elsewhere."

3. The writer has in all cases endeavored to give proper credit in the catalogue to the discoverer of a new plant or new station of a scarce and rare plant whether the discoverer determined his plant or

not. All localities without name of person, are supposed to be from the personal observation of the writer. Wherever an exclamation point follows a name it signifies that the writer has verified the discovery, by himself observing the same station. Those plants so common as to need no special mention, are considered the common property of all observers, and therefore no discoverer's name is added.

4. Each species, variety, or especially marked form found with our Cayuga L. basin has its catalogue number, provided the plant is native, or has become established.

5. Those without numbers and without enclosing brackets are not regarded as yet permanently established within our limits.

6. Those without numbers but enclosed in brackets are found in the basins of Keuka or Seneca Lakes but not in that of Cayuga.

7. Species with names in heavy-faced type, are supposed to be indigenous.

8. Species with names in small capitals are not regarded as indigenous.

9. Whenever a species is not described in Gray's Manual 5th edition, a description is given in this catalogue if the form is regarded as permanent or important, and all references to Gray's Manual are to the 5th Edition.

10. The classification of Orders and Genera adopted, is that of Bentham and Hooker's *Genera Plantarum*; except that the arrangement in Gray's *Synoptical Flora* is preferred wherever that varies from the former. In the present unsettled condition of the *Carices* it was thought best to adhere to the old established arrangement of species as given by Carey in Gray's Man. The writer has also been conservative about adopting all the numerous changes made in the nomenclature of that genus.

11. The letters **H.**, **C.**, or **H.** and **C.**, refer to the work of Dr. H. P. Sartwell, of Penn Yan, on the plants of the valleys of Seneca and Keuka Lakes. He was an accurate observer, an indefatigable worker, and in Senate Doc. No. 51, a report of the Regents of the University of the State of N. Y. for 1844, he published a catalogue of plants found in these two basins, and afterward disposed of his entire collection including specimens of most of those given in his catalogue, to Hamilton College. This collection [1]is the "*Herb. Sartwell*" or the "**H**" of the following pages. "*Cat. of 1844*" or "**C**," refers to the above-named catalogue excluding those plants known to have been found only outside of the two lake basins. This catalogue contained 947 species,—not all of them found in the Seneca and Keuka regions—and to this Dr. S. H. Wright has for my convenience added all the recent discoveries known to him, 85 in number. His additions are indicated by the expression "Dr. Wright in **C.**" Our cordial acknowledgements are due Dr. Wright for this and other kind acts. The following catalogue, therefore, furnishes not only the student of our flora a basis for future work, but the student of the Keuka and Seneca flora with similar, though less complete knowledge.

12. The (*) frequently used after the numbers indicate that the parti-

[1] A manuscript catalogue of this collection was obtained by the kind aid of Professor A. P. Kelsey, of Ham. Col.

cular species was given in Dr. Alex. Thompson's "List of Plants found in vicinity of Aurora" published in the Regents' Report for 1841. A certain number are rejected from that list as they were known not to have become really established. Another set inadvertently omitted in printing are given below, and should have the star in the text. These are :

Caltha palustris,
Rubus strigosus,
" occidentalis,
" villosus,
" Canadensis,
Pirus Americana (introd.)
Anthemis Cotula.
Tanacetum vulgare,
Asclepias tuberosa.
Gerardia flava,
" quercifolia,
Phryma Leptostachya,
Solanum Dulcamara,
Rumex acetosella,
Phytolacca decandra.

13. In the expressions indicating rarity or abundance of a species, the word "rare" signifies that there are from one to four stations, and the specimens few in each. The other terms are applied with as much care as could be exercised, in the following order referring to their comparative abundance : scarce ; infrequent or uncommon ; not uncommon ; frequent ; abundant ; common.

14. Certain names of localities will strike many as unfamiliar. Old names have in several instances been revived, as in the case of the traditional Indian name—Neguæna—for that portion of the so-called Inlet above its junction with Six Mile Cr. Eagle Hill was the old name for what is often called "Bald Hill, Ithaca." But as there is another Bald Hill in Caroline, a revival of the old name seemed desirable. Since the opening of the University other names have been invented and adopted to meet the needs of collectors, and these are, of course, retained on the map and elsewhere.

## The Disappearance of Species.

Certain species once known to exist within our limits have apparently disappeared. We do not find *Rhexia*, *Hippuris*, *Castilleia* or *Pogonia pendula ;* some of them may yet reappear, but probably not in the stations first reported. This catalogue reveals to all botanical students the stations of many rare plants, not before generally known. It is true that no student of our department, after he has come to have a real appreciation of his work, has ever needed the caution, to treat every plant as rare until it is known to be abundant, therefore, even this gentle reminder of a very good rule may not, perhaps, be strictly necessary. It may not, however, be out of place to point out the desirability of applying this rule to the plants of Cascadilla Woods, in particular. On account of its convenience to our laboratories, as well as its remarkable variety of forms, it is of almost priceless value, not only for its flowers, but the mosses and fungi it shelters. It is hoped, therefore, that not only will students be reasonably careful in collecting in it, but that all interested in the future of our campus will use every means to preserve the woods and its many interesting plants from any injury whatever.

# CATALOGUE.

## PHÆNOGAMIA.

### DICOTYLEDONS.

#### RANUNCULACEÆ.

1. CLEMATIS, Linn.

1. C. verticillaris, DC. PURPLE CLEMATIS. (C.)
Cliffs and ravines; scarce. May 12–25.
Cascadilla and Fall Creek ravines, a few stations. Buttermilk ravine below "Pulpit-Rock." McKinney's Twin-Glens. North of Esty-Glen. Taughannock, above the Falls.

2. C. Virginiana, L. WHITE C. VIRGIN'S BOWER. (H. and C.)
River-banks, thickets and swamps. July 25–Aug.
Frequent near Ithaca, along the railroads, and throughout our lake-basin.

2. ANEMONE, Linn.

3. A. cylindrica, Gray.
Roadside, Sherwood to Auburn, N. Y. June, 1880. (*Miss I. Howland.* See *Herb. Cornell Univ.*); rare.
(Near outlet of Owasco L. *I. H. Hall in addend. of Paine's Cat.*)

4. *A. Virginiana, L. (H. and C.)
Wild banks, and lake shore; common. July.

5. A. Virginiana, L. var. alba, Wood, in Cascadilla Cr., etc.; frequent.

6. *A. dichotoma, L. (*A Pennsylvanica L.* Gray's Man., p. 37.) (H. and C.)
Abundant on gravelly shores of Cayuga Lake; also along the creek-beds and R. R. embankments. June–July.

7. *A. nemorosa, L. WIND-FLOWER. (C. by Dr. S. H. Wright.)
Copses and woods; frequent. May 1–20.
Six Mile Creek, Negundo Woods, McGowan Woods, and elsewhere.

8. A. nemorosa, L. var. quinquefolia, Gr. occasional in Six Mile Cr. and elsewhere.

9. *A. Hepatica, L. HEPATICA. (*Hepatica triloba, Chaix*, Man. p. 38.) (H. and C.)
Dry woods of Pine, Oak, etc.; common. Mar. 25–May 15.
Especially common in the dry woods on E. shore of Cayuga Lake. Specimens from South Hill, with stamens and pistils changed into sepals.

10. A. acutiloba, Lawson. HEPATICA. (*Hepatica acutiloba DC.* Man. p. 38.) (H. and C.)

Richer soil than the preceding, in ravines and woods. Mar. 25–May 15.

Especially fine in Taughannock ravine, south slope. Woods about Freeville and the Round Marshes. Not accompanying *A. Hepatica* in the dry woods on the east bank of the lake. Forms with five and even seven lobed leaves in rich shaded soil at Big Gully, Taughannock and other places. Specimens from Fall Cr. (*F. L. Kilborne*) have five enlarged divisions to the involucre (one being 3-lobed.)

3. ANEMONELLA, Spach.

11. ***A. thalictroides**, Spach. (*Thalictrum anemonoides Mx.* Man. p. 38. See Botanical Gaz., XI., p. 39, *A. Gray.*) RUE-ANEMONE. (H. and C.)

Rich or alluvial soil especially along ravines. Apr.–July.

Completely double flowers occasional in Cascadilla woods and elsewhere. Mrs. Brun finds such constant from year to year on plants from the same root. Specimens from six Mile Creek (1875) have all the flowers pale green. In other specimens an involucral leaflet has developed into a pure white sepaloid body.

4. THALICTRUM, Tourn.

12. ***T. dioicum**, L. EARLY MEADOW RUE. (H. and C.)

Rocky soil; frequent on the sides of ravines and on the lake shore. Apr. 20–May 15.

13. **T. polygamum**, Muhl. (*T. Cornuti L.* Man. p. 39) TALL MEADOW RUE. (H. and C.)

Swamps and meadows; frequent, especially around the springs of Mud Creek, Dryden Lake Valley and Michigan-Hollow. July, rarely earlier or later.

13[a]. **T. purpurascens**, L.

Scarce, in Fall Cr. and elsewhere.

5. RANUNCULUS, Linn.

14. **R. aquatilis**, L. var. **trichophyllus**, Ch. WHITE WATER-CROWFOOT. (H. and C.)

In slow-flowing streams, or in still shallow water in the lakes; frequent. July.

Pools and bayous of Fall Creek and the marshes near. In the pockets of Cayuga L. cut off by the Cayuga So. R. R. Cayuga marshes, abundant. Clear pools in Beaver Cr. and upper part of Casc. Cr., etc.

15. **R. circinatus**, Sibth. (*R. divaricatus Schrank.* Manual, p. 40); scarce.

Bayou in Fall Cr. marsh. Below Cayuga Bridge. "Marl Ponds" of South Cortland, where some of the plants are large and wholly submerged, others emersed, dwarf, 1–4 mm. high, leaves bright green, and flowers often with only four petals, blossoming till Oct.

16. **R. multifidus**, Pursh. YELLOW WATER-CROWFOOT. (H. and C.)

Ditches and overflowed swamps; scarce. Latter part of May. Lockwood's Flats, 1827. (*Herb. Professor J. J. Thomas.*) C. S.

R. R. ditches, from Glass-Works at Ithaca to the Corner-of-the-Lake. Along Cayuga St. near Corner-of-the-Lake. West Inlet-Marsh. Ringwood Swamp. Summit Marsh. (Penn Yan and Seneca L. *Sartwell.*)

17. **R. Cymbalaria**, Pursh. SEA-SIDE CROWFOOT.
Brackish marshes; local. June-Sept.
Montezuma, frequent E. of Salt Cr. and N. of the main road; observed in the same locality by Dr. Gray, 1831.

18. * **R. flammula**, L. var. **reptans**, Meyer. (H. and C.)
Wet, sandy shores; rare. July–Sept.
Cayuga Bridge, (*in Herb. Professor J. J. Thomas*). Shore on S.W. part of Myers Point, Cayuga Lake—found, Nov. 1880, (now in Univ. Herb.), but not seen since. Probably destroyed by the ice, which is often pressed up on the points and shores in winter, scoring up the loose sand. (Crooked Lake, *Sartwell.*)

[**R. ambigens**, Watson. (*R. alismaefolias, Geyer*, of Man. p. 41.)
"Hammondsport, Crooked L." *Sartwell in Herb. Ham. Coll.* Rood Swamp, near Painted Post, Steuben Co., *in Herb. from Miss I. S. Arnold*, 1884. It ought to be found within our limits.]

19. **R. abortivus**, L. SMALL-FLOWERED CROWFOOT. (H. and C.
Fields, meadows and damp woods; abund. May.

20. **R. sceleratus**, L. (H. and C.)
Ditches and wet places; not common. May to July.
Ithaca, abund. along the C. S. R. R. from the car-shops to Casc. Cr.; also beyond the Lehigh Valley depot. Union Springs and Canoga, occasional. Frequent on the Cayuga Marshes. (Seneca L. *Sartwell Herb. and Cat.* Also at Watkins !)

21. **R. recurvatus**, Poir. (H. and C.)
Ravines and damp woods; frequent. May–June.

22. **R. Pennsylvanicus**, L. (H. and C.)
Marshes, low grounds and wet places along streams; frequent. July–Sept.

23. **R. fascicularis**, Muhl. EARLY CROFOOT. (H. and C.)
Hillsides and thinly wooded slopes; frequent. Apr.–May.
Two forms occur here. In both, the earliest radical leaves are chiefly 3-parted, or 3-lobed. In the first (apparently typical) form the later radical leaves are ternate, each division twice pinnate with oblong or linear lobes; the cauline similar, the uppermost becoming simple. Roots fleshy and decidedly thickened. In the second form, the later radical leaves are ternate, the divisions coarsely serrate and wedge-shaped; the lateral divisions nearly sessile, usually lobed, the terminal stalked, broad and usually 2-parted; the cauline leaves 3-parted, 3-lobed, or the uppermost simple. Roots slender.

24. **R. repens**, L. (*R. Clintonii*, Beck, *Bot.*, p. 9, and Paine's Cat. p. 55.) (H. and C.)
The "low, hairy form," creeping and rooting at the nodes freely.

Rare ; at Union Springs in clay soil, near the Stone-Mill, appearing there as if introduced. May 20–June 20.

25. R. septentrionalis, Poir. (See *Pursh. Flora Amer. Sept.* II, p. 394 ; also Dr. Gray's *Revision of* N. A. *Ranunculi*, 1886.)
Marshy places ; common. May, June.
This form, referred to *R. repens*, L. since the publication of Torr. and Gray's Flora, is a much larger plant than that species, often nearly smooth and grows in wetter soils. The prostrate stems do not root freely, if at all.

26. R. BULBOSOUS, L. BULBOUS CROWFOOT, (C.)
Near Big Gully, 1827. (*Herb. J. J. Thomas.*) Aurora, near R. R., and from the mouth of Paine's Creek to the road above the first falls; apparently wanting in sections of our flora south of the above. (Near Geneva, 1885, *Fred V. Coville.*) A double-flowered *var.* occasionally escapes near gardens, as at McLean.

27. *R. ACRIS, L. BUTTERCUP. (H. and C.)
Fields ; very common. May–Oct.

6. CALTHA, Linn.

28. C. palustris, L. MARSH MARIGOLD. (H and C.)
Swamps and open wet meadows. April, May.
Fall Cr. in Cold-spring Marsh. Casc. Cr. below Judd's Falls. Frequent in marshes about Ithaca, (*T. B. Comstock*) ! and abundant about Freeville, Round-Marshes, and the swamps of Groton and Danby.

7. TROLLIUS, Linn.

29. T. laxus, Salisb. GLOBE-FLOWER.
Swamps ; not common. May–June.
Near Larch-meadow. Swamps near Freeville, Malloryville, Mud Creek, Beaver Creek, W. Dryden, Groton, Danby and Newfield.

8. COPTIS, Salisb.

30. * C. trifolia, Salisb. GOLDTHREAD. (H. and C.)
Cold, mossy woods and marshes ; frequent. May 10–25.
Woods near Eddy Pond, (*Professor W. C. Cleveland*, 1871) ! Six Mile Cr. Abundant on the hummocks, and about the margins of all the sphagnum marshes in the flora, and in the hemlock woods.

9. AQUILEGIA, Tourn.

31. * A. Canadensis, L. COLUMBINE. (H. and C.)
Rocky banks, and rocks of glens and lake-shore. May, June.
Also in cultivated grass-field, top of Bald Hill, Caroline.

32. A. VULGARIS, L. GARDEN COLUMBINE.
Established in woods beyond Larch Meadow. June.
Also by road on Dryden-Lansing town line ; Newfield in woods W. of R. R. sta., (*C. Humphrey in herb.* 1879) ; by road north of Cayuta Lake ; Saxon Hill, near Taber's.

DELPHINIUM, Tourn.

D. CONSOLIDA, L. LARKSPUR. (C.)
Six Mile Cr. 1875 (not established.)

10. HYDRASTIS, Linn.

33. H. Canadensis, L. GOLDEN SEAL. (H. and C.)

Woods and banks of ravines; rare. May.

Six Mile Cr., near Sulphur Spr. 1872. (in flower May 24.) Swampy woods head of Salmon Cr., N. E. of Merrifield's Sta. 1880. Big Gully ravine (*in Herb. Mrs. Prof. Brun.*). Ledyard, (*Herb. J. J. Thomas.*)

11. ACTAEA, Linn.

34. A. spicata, L., var. rubra, Michx. RED COHOSH. (H. and C.)

Woods and wooded ravines; frequent. Apr. 25–May 25.

Fall Cr., Six Mile Cr. and lake-shore ravines; also wood in Danby, and Bald Hill, Caroline. McGowan Woods. Dryden-Lansing Sw., etc.

35. A. alba, Bigelow. WHITE COHOSH OR BANEBERRY. (H. and C.)

Woods; less frequent than above. May.

Cascadilla ravine. Fall Cr. Six Mile Cr. Freeville woods. Bald Hill woods, etc.

12. CIMICIFUGA, Linn.

36. *C. racemosa, Ell. BLACK SNAKE ROOT. (H. and C.)

Wild grassy banks; rare. Aug.

Ithaca, West Hill in Cliff-Park ravine. Lansing by road E. of Taughannock Sta. E. side of Cayuta Lake. (E. side valley at Watkins. Seneca L. Seneca, *Sartwell in Herb. and Cat.* Hector, *Herb. J. J. Thomas.*)

[HELLEBORUS VIRIDIS, L. is reported from Penn Yan by Dr. S. H. Wright.]

## MAGNOLIACEÆ.

13. MAGNOLIA, Linn.

37. *M. acuminata, L. CUCUMBER TREE. (H. and C.)

Along ravines or in old woods; not common. May 20–June 10.

Casc. Cr. above Judd's Falls. In McGowan Woods. Dart Woods and Ringwood. Six Mile Cr., a large tree opposite the Sulphur Spring. Along the valley to Brookton. Danby, in Durfee Hill Woods abund.; also near Danby vill. and W. Danby. In Enfield and high hills of Newfield, frequent. Rare on W. Hill, Ithaca, and in the low grounds about Freeville, McLean, etc., and only occasional in the damp woods from Forest-Home north through Groton, Genoa, to Sherwood and Big Gully Brook, and on the west side of Cayuga L.

14. LIRIODENDRON, Linn.

38. *L. tulipifera, L. WHITE-WOOD. TULIP-TREE. (H. and C.)

With the preceding and somewhat more abundant. June 1–20.

Casc. Woods back of Armory and on banks of ravine. Fall Cr. W. of Sibley Coll. Agrees with the preceding in scarcity or abundance in certain districts. A tract of fine trees existed in 1882 ¼ mile south of Big Gully.

## MENISPERMACEÆ.

### 15. MENISPERMUM, Linn.

39. **M. Canadense**, L. MOON-SEED VINE. (H. and C.)
Rich, rocky or alluvial soil. June 20–30.
Casc. ravine. Fall Cr., Six Mile Cr. and other ravines. Negundo Woods, and thickets near Fall Cr. on the marsh. Freeville and McLean.

## BERBERIDACEÆ.

### 16. BERBERIS, Linn.

40. *B. VULGARIS, L. BARBERRY. (H. and C.)
Pastures and fences; local and scarce. May 25–June 15.
South Hill (*Dr. Jordan*), near the "Inclined Plane" of old R.R.! By road to Buttermilk Falls. Lane W. of Negundo Woods (*F. B. Hine*)! Valley near "Rosedale." Danby, on Michigan Hill. By road N. of Forest-Home. Ludlowville near Hedden and Townley Creeks.

### 17. CAULOPHYLLUM, Michx.

41. **C. thalictroides**, Michx. BLUE-COHOSH. (H. and C.)
Rich soil, ravines and woods; frequent. Apr., May.
Fall Cr., Six Mile Cr., etc. Freeville, McLean and Danby Woods.

### 18. JEFFERSONIA, Barton.

42. *J. diphylla, Pers. TWIN-LEAF.
Rich soil, along shaded brooks; rare. May 10–15.
Near Levanna. (*J. J. Thomas in Herb. at Union Springs*), coll. in 1827 in woods near Barber's Brook and about a mile from the lake, apparently.
About two miles south-east of Levanna, near the east branch of Barber's Brook, in rich woods just west of the V. C. Deshong place; in flower May 14, 1882.
Near Aurora. (*Dr. Alex. Thompson; See Report of the Regents of N. Y.*, 1841, p. 225.)
In Paine's Creek ravine, near Aurora; fine plants. (*Prof. French of Wells Coll.*, 1883).
Near Wood's Station, I. A. and W. R. R., towards head of Salmon Cr.; discovered by *Dr. Charles Atwood, Moravia*, 1881. Visited June 24, 1885, when the plants were found growing on a low, sandy, wooded bank north-east side of the pond east of the R. R. They were luxuriant, covering eight or ten square feet, in fine fruit, and accompanied by the rare *Carex Careyana*, and by *C. tetanica*.
(Near Geneva. *Sartwell, Herb. and Cat.*)

### 19. PODOPHYLLUM, Linn.

43. *P. peltatum, L. MAY-APPLE. MANDRAKE. (H and C.)
Rich soil; common. May 20–June 10.
Specimens from Six Mile Cr., (*F. L. Kilborne*), 1883, show two distinct pistils, and many 3-lobed stamens.

## NYMPHEACEÆ.

### 20. Brasenia, Schreb.

44. *B. peltata, Pursh. Water-shield. (H. and C.)
Ponds and ditches; rare. Aug.
Ithaca, ditch at corner of Fair Grounds, (*C. H. Wilmarth*, 1876); also 1880! Locke Pond. Cayuta Lake, frequent. (Crooked L., *Sartwell, Herb. and Cat.*)

### 21. Nymphæa, Tourn.

45. *N. odorata, Ait. White Pond-Lily. (H. and C.)
Shallow still water; not common. July–Aug.
Canoga marshes opposite Union Springs. Near Cayuga Bridge, a few. Locke Pond. Cayuta Lake. (Penn Yan, *Sartwell, Herb. and Cat.*)

46. N. odorata, Ait. var. minor, Sims.
Summit Marsh. Cayuta Lake.

47. N. tuberosa, Paine.
In the larger marshes. July, Aug.
From Cayuga Bridge, north; abund. near Black Lake.

### 22. Nuphar, Smith.

48. N. advena, Ait. Yellow Pond-Lily. (H. and C.)
Shallow water; common. June, Aug.
Marshes about Ithaca, Cayuga Marshes, Locke Pond, Freeville, etc.

49. * N. pumilum, Smith, (*N. luteum, Sm. var. pumilum*, Man. p. 57.)
Bayou near mouth of Fall Cr., 1876. Ditches near Ithaca Fair-Grounds. Groton Mill Pond, (*Prof. S. G. Williams*, 1877); same station 1881! (North Spencer Pond, 1880. Flint Cr., Gorham, *Sartwell, Herb. and Cat.*) Flowers have never been found in this region.

## SARRACENIACEÆ.

### 23. Sarracenia, Tourn.

50. * S. purpurea, L. Pitcher-plant. (H. and C.)
Peat-bogs. June 10–20.
Larch-meadow, Ithaca, 1873, (*Dr. J. C. Branner*,) now nearly extinct. Freeville bog, 1872, (*Dr. Jordan.*) Frequent in this bog, at Malloryville, Woodwardia Sw., and the Round-Marshes.
The *S. heterophylla* form at "W. Junius." (*Sartwell, Herb. and Cat.*) W. Junius, near Lowery's Ponds and north of Pout Ponds!

## PAPAVERACEÆ.

### Papaver, Linn.

P. somniferum, L. (Common Poppy.) By road S. E. of Edgewood, 1875 and 1881.

P. Rhœas, L. (Field Poppy.) Campus near McGraw Building, 1875 and 1883. Fiske-McGraw grounds, 1883.

### 24. Chelidonium, Linn.

51. C. majus, L. Celandine. (H. and C.)
Shaded turfless places; frequent. June.

Roadsides near dwellings. Also in woods beyond Buttermilk Falls bridge, abund., and in the amphitheatre of Six Mile Cr. Near Saxon Hill, etc.

25. SANGUINARIA, Dill.

52. *S. Canadensis, L. BLOOD-ROOT. (H. and C.)
Frequent in Fall Cr. and other ravines, and in thickets. April 15–30.

## FUMARIACEÆ.

26. ADLUMIA, Raf.

53. A. cirrhosa, Raf. ALLEGHANY-VINE.
Ithaca, foot of Cascadilla ravine, 1873; not permanent.
"Junius." (*Sartwell, Herb.*) (In a rocky thicket, road between Watkins and Havana, N. Y., June, 1884; apparently indigenous.)

27. DICENTRA, Bork.

54. *D. Cucullaria, DC. DUTCHMAN'S BREECHES. (H. and C.)
Common in Fall Cr. and the other ravines; also in rich woods near Aurora, Union Springs, Freeville and in Negundo Woods, April 15–30.

55. D. Canadensis, DC. SQUIRREL CORN. (H. and C.)
Rich alluvial soil. Woods and ravines; frequent. Apr. 20–30.
Fall Cr., Six Mile Cr., Negundo Woods, especially luxuriant. Freeville. Danby. Paine's Cr.

56. D. eximia, DC.
*Junius*, Seneca Co., *in Sartwell's Herb.* (Probably only one station; *either Junius* or in *Wayne Co.*)
"Dr. Sartwell is the only botanist who has found it in the limits of N. Y." (See Torrey, in Flora of N. Y., I, p. 47, 1843.)
In the 19th Report of the Regents, on the N. Y. State Cab. of Nat. Hist., p. 77, (1865), Judge Clinton says, under *Dicentra eximia*, DC.: "On recurring to my correspondence with David Thomas, in 1829, I find that he had not then found this plant native in Cayuga Co. Prof. Pickett kindly communicated to me a letter of my dear friend, Dr. Sartwell, dated June 23, 1865, in which he writes: 'As to *Dicentra eximia*, I know not where it can be found. About twenty years ago I found it in Wayne Co., not far from Lyons; and David Thomas found it in Scipio, Cayuga Co., about the same time or before. * * I have no duplicate specimen.'" Gray, in Manual, (1865), p. 61, gives 'Rocks West. N.Y.' (*Thomas, Sartwell.*) Paine's statement (Cat., p. 59), that Sartwell found it near Sodus Bay, is probably an error. But it is still uncertain whether it was originally found in *Seneca* or *Wayne Co.*

28. CORYDALIS, Vent.

57. C. glauca, Pursh.
Cliffs, Fall Cr., north side below Forest-Home; rare. May 15–30. (*Discovered by C. O. Upton, May 14, 1878.*)!
"Junius," (*Sartwell, Herb. and Cat.*)

58. C. aurea, Wild. GOLDEN CORYDALIS.
Rocks below Lucifer Falls. June 1–10.
(*Discovered by Prof. A. N. Prentiss, June, 1871.*) Several times it has seemed to have become extinct, but it reappears, and flowers have been collected, 1875, 1882, 1884, 1885.

29. FUMARIA, Linn.

59. F. OFFICINALIS, L. FUMITORY.
McKinneys, by the C. S. R. R., a few rods south of the station. June 3, 1882, in flower; also June 16, 1885; plants spreading.

## CRUCIFERÆ.

30. LUNARIA, Linn.

60. L. BIENNIS, L. COMMON HONESTY.
Escaped; Dryden Road, by hedge south side of Giles Place, May 20–30.
Fall Cr., near sand-bank above Forest-Home. (*E. H. Preswick.*)

31. ALYSSUM, Tourn.

61. A. CALYCINUM, L.
Introduced: at the Pres. White place, Univ. Campus, May 20, 1878, (*Professor Prentiss*)! Along the road near the Jayne Place, 1879, (*Frank H. Severance*)! Fiske-McGraw grounds, 1881, (*F. L. Kilborne.*)!

32. DRABA, Linn.

62. D. arabisans, Michx.
Margins of cliffs; rare—a northern species. May 20–June 10.
Burdick's Glen, along the brook just above the falls, 1871. First small ravine below McKinney's Glens, Nov., 1881.

63. D. verna, L. WHITLOW-GRASS.
Shaded clayey soil; scarce. Apr.–May 15.
Introduced in Cemetery, Ithaca, (*1878, Prof. Prentiss*)! Wild, south bank of Big Gully, 1882.

33. DENTARIA, Linn.

64. * D. diphylla, L. PEPPER-ROOT. (H. and C.)
Ravines and rich woods; frequent. Apr. 20–May 20.
Casc. Cr. and all ravines, often in springy soil. Negundo, Freeville and Round Marsh Woods.

65. D. maxima, *Nutt.*
Bottoms of ravines; scarce. Apr. 20–May 20.
Six Mile Creek, Beechwoods, where specimens have been obtained like those mentioned in Paine's Cat., viz.: with a secondary branch arising from the axil of the third and upper leaf. Ravine on the Renwick farm slope, and doubtful forms from Taughannock below the falls.

66. D. laciniata, Muhlenberg. (H. and C.
Ravines, rich woods; common and variable. Apr. 20–May 20.
The typical form, with leaves whorled and leaflets freely and sharply toothed, occurs in Negundo Woods, Six Mile Cr., Fall Cr.,

Franklin's Ravine, Taughannock, etc. The form with alternate more or less long petioled leaves is with the other, and especially abundant at Negundo Woods. A form, tall—25–35 cm., with 2 leaves, each with 3 broad rather simple leaflets, and purplish flowers, but usually with the rootstocks of *D. laciniata*, is placed here by Dr. Gray. This is the best disposition to be made of the numerous forms of this abundant species, so far as its local specimens are concerned.

### 34. CARDAMINE, Linn.

67. **C. rhomboidea**, DC. WH. SPRING-CRESS. (H. and C.)
Rich woods or sometimes wet places. May 10–30.
Indian Spring Marsh. Near Freeville and McLean; less common than the *var. purpurea*.

68. ***C. rhomboidea**, var. **purpurea**, Torr. PURPLE SPRING-CRESS.
In wet and springy places; common. April 20–May 15.
It blooms earlier, the aspect is different and like a distinct species.

69. **C. pratensis**, L. CUCKOO-FLOWER. (H. and C.
Wet marshes and meadows; scarce. May.
Marshes, head of Lake, and Dryden-Lansing Sw. (*Jordan*)! Larch Meadow. Fleming Meadow. Near Freeville. Round Marsh. Locke Pond.

70. **C. hirsuta**, L. (H. and C.)
Wet places, ravines and brooksides; common. May–July.

71. **C. hirsuta**, L., var. **sylvatica**, Gr.
Drier places; rare. June.
High rocks and shales, Burdick's Glen and vicinity. (*F. L. Kilborne*, 1882)!

### 35. ARABIS, Linn.

72. **A. lyrata**, L.
Rocks and shale, ravines and cliffs; scarce. June, July.
Rare in Fall Cr. and Enfield ravines. Caroline, somewhat abundant on the North Pinnacle; almost wholly wanting on the lake-shore cliffs. Cliffs S. E. corner of Seneca L.

73. **A. hirsuta**, Scop. (C.)
Cliffs and rocks; frequent. May 20–June 10.
Fall Cr. Enfield ravine. Six Mile Cr., "Narrows." Lake shore ravines. In shaded places it produces small thin-leaved specimens, resembling *Sisymbrium Thaliana*.

74. **A. laevigata**, DC. ROCK CRESS. (H. and C.)
Rocky places; frequent. May 20–June.
Cascadilla, and other ravines.

75. **A. Canadensis**, L. SICKLE-POD. (H. and C.)
Ravines and hill slopes, in thickets widely distributed, but growing singly. June–Aug.
Fall Cr. Six Mile Cr. Enfield ravine. South Hill and lake-shore ravines.

76. **A. perfoliata**, Lam.
Fields, appearing as if introduced; scarce. June–Aug.
South Hill, above the Quarry. Ulysses near Perry. Near Summit Marsh.

77. **A. Drummondii**, Gray.
Rocks and shale cliffs; frequent. June.
Fall Cr. and all the ravines, especially abundant on the High Cliffs north of King's Ferry.

36. ERYSIMUM, Linn.

78. **E. cheiranthoides**, L. (H. and C.)
Dry soil and thickets; not common. June–Sept.
Near the Armory. Near the "Nook." East and west shores of the Lake.

37. BARBAREA, R. Br.

79. **B. vulgaris**, R. Br. WINTER CRESS. (H. and C.)
Cult. soil; everywhere. May, June.

38. SISYMBRIUM, Linn.

80. S. OFFICINALE, Scop. HEDGE MUSTARD. (H. and C.)
Waste places; abundant. June–Sept.

81. **S. canescens**, Nutt. TANSY MUSTARD.
Cliffs; very rare; June.
"Lucifer Falls, Tompkins Co. J. W. Chickering," (*Gray's Man.*)
I have not been able to find it there, but it grows above the foot-path at the entrance of Watkins Glen, (*Dr. Jordan discoverer.*)!

HESPERIS, Linn.

H. MATRONALIS, L. Scarce, probably not established. July.
Road toward Buttermilk Falls, coll. in 1875 and 1882. Near Giles Place.

39. BRASSICA, Tourn.

82. B. SINAPISTRUM, Boissier. YELLOW MUSTARD. (H. and C.)
Cult.-fields, etc. June–Sept.

83. * B. NIGRA, Gray. BLACK MUSTARD. (H. and C.)
Waste places and along streams and lake shores. June–Oct.

84. B. ALBA, Gray.
Fields; rare. July, Aug.
In Ithaca on Seneca St. Field E. of Freeville.

B. OLERACEA. (CABBAGE.) Springs up in many places; abundant in 1884.

40. NASTURTIUM, R. Br.

85. N. OFFICINALE, R. Br. WATER-CRESS.
Spring-brooks, etc. July–Aug.
Abund. in the ditches from the springs in Ithaca village. Indian Spring, etc.

86. **N. palustre**, DC. MARSH-CRESS. (H. and C.)
Wet places, borders of pools, etc. June–Sept.
The typical form, nearly smooth and with oblong pods, is found in Cascadilla ravine, a few; and at the Marl Ponds of Cortland.

87. **N. palustre**, DC. var. **hispidum**, Gr. (**H.** and **C.**)
Common on marshes about Ithaca, Cayuga Marshes, Summit Marsh and about streams and pools elsewhere.

88. *N. ARMORACIA, Fries. HORSE-RADISH. (**H.** and **C.**)
Wet places and roadside ditches. May, June.
Thoroughly at home in the wet marshes at the Corner-of-the-Lake, where it blooms freely. Also along the ditches south of town, and the village streets.

41. CAMELINA, Crantz.

89. C. SATIVA, Crantz. FALSE-FLAX. (**H.** and **C.**)
The University Campus, 1875, and 1882. June.
Also near Aurora by the R. R. (Watkins, E. side of valley. "Penn Yan, frequent." *Sartw., in Herb.*)

42. CAPSELLA, Vent.

90. *C. BURSA-PASTORIS, Moench. SHEPHERD'S PURSE. (**H.** and **C.**)
Everywhere. Mar–Dec.

43. LEPIDIUM, Linn.

91. L. VIRGINICUM, L. PEPPER-GRASS. (**H.** and **C.**)
Dry waste grounds and roadsides; common. June–Oct.

92. L. RUDERALE, L. PEPPER-GRASS.
With the preceding and equally common; distinguished from it by its somewhat smaller pods, and darker green color. Occasionally it has fasciated recemes.

93. L. CAMPESTRE, L.
Fields and yards. June, July.
First noticed in Ithaca, 1873. Near the "Nook." South Hill. Much more abundant near Union Springs and Aurora.

RAPHANUS, Linn.

R. SATIVUS, L. RADISH.
Occasional scape; not uncommon on the lake shore.

## CAPPARIDACEÆ.

44. POLANISIA, Raf.

94. *P. graveoleus, Raf. (**H.** and **C.**)
Gravelly banks; near the ravines, and on the lake shore; frequent. July.

## CISTACEÆ.

45. HELIANTHEMUM. Tourn.

95. **H. Canadense**, Michx. FROST-WEED.
Dry banks of ravines; scarce. June 20–July.
Near mouth of Buttermilk Glen. Coy Glen. Salmon Cr. ravine. Valley Cemetery south of Ithaca. "Junius," (*Sartwell, H. and C.*); about Newton's ponds!

46. LECHEA, Linn.

96. L. **thymifolia**, Pursh. PINWEED.
Dry soil; rare. Summer. North side Salmon Cr. ravine.
(L. **Major**, Michx. *Avon* and L. **minor**, Lam. *P. Yan*, "in cemeteries," *Sartwell, Herb. and C.*)

## VIOLACEÆ.

47. IONIDIUM, Vent. (*Solea*, *Ging.* of Gray's Man.)

97. **I. concolor**, Benth and Hook. (*S. concolor* of Man., p. 77.) GREEN VIOLET. (H. and C.)

Slopes of ravines; rare. May 25–June 10.

"Woods, Ledyard," 1827, (*in Herb. J. J. Thomas.*) Salmon Creek ravine north side. Six Mile Creek, east of Sulphur Spring, in 1874 and 1876.

48. VIOLA, Linn.

98. **V. rotundifolia**, Michx. SWEET YELLOW VIOLET.

Rich cold woods, where it is frequent. Apr. 15–May 10.

Near Brookton (*Dr. Jordan*, 1871)! Six Mile Cr. south of Narrows, (*Branner*, 1873)! Near Buttermilk ravine. Enfield ravine. Lick Brook, Dart Woods, Caroline Hills, Swamps of Dryden and Danby,

99. **V. blanda**, L. WHITE VIOLET. (H. and C.)

Ravines, wet woods and swamps; common. May.

100. **V. renifolia**, Gray, (*Proc. of Amer. Acad. of Arts and Sci.*, VIII., p. 288.)

"Rhizome and flowers like V. blanda L. or the flowers a little larger. Leaves reniform usually 5 cm. broad, both sides and the petioles villous-pubescent, scape pubescent." Growing with *V. blanda* and like it except its "reniform leaves are conspicuously beset with pale, soft and tender, lax. hairs." Deep mossy swamps, like the Round-Marshes and Mich. Hollow Sw.; not uncommon. The hairs are not as conspicuous, in our specimens, nor the scapes or petioles as stout, as in northern specimens. We are probably near the southern limit of the species.

101. *V. ODORATA, L. "ENGLISH VIOLET." Sometimes spreads beyonds the gardens, as in Ithaca, on Seneca St. near Spring St. and elsewhere.

102. **V. Selkirkii**, Pursh. (Goldie.) GREAT-SPURRED VIOLET.

Shaded ravines or by rivulets; rare.

"In Enfield near Lucifer Fall," (*W. J. Freeman, May* 15, 1880), in Herb. of C. U.

103. *V. cucullata, Ait. COMMON BLUE VIOLET. (H. and C.)

Open thickets, meadows and swamps; common. May–June.

104. **V. cucullata**, Ait., var. **palmata**, Gray. HAND-LEAVED V. (H. and C.)

In drier situations, grassy slopes; frequent.

University grove. North side of Fall Cr. Renwick farm slope. Woods and glens on both shores of Cayuga Lake. Specimens from the University grove, (*F. L. K., May*, 1878), show entirely regular, spurless and beardless flowers.

105. **V. sagittata**, Ait.

Dry hillsides; not common. May.

Abundant on South Hill near N. Y. S. S. 420, and south, (1871). Near Buttermilk ravine. West Hill, near Cayuga Lake, (*Trelease,*)

1879. Near White Church. Danby, S. E. of village; Thacher's Pinnacle and south. Hill north of Signer's Woods. Renwick.

106. V. canina, L. var. sylvestris, Regel. DOG VIOLET. (H. and C.)
Rich, damp woods and borders of marshes; abund. May–June.
Fall Cr. and Six Mile Cr. Negundo Woods; and especially abundant near Beaver Cr., and the Pond Meadow near.

107. V. rostrata, Pursh. LONG-SPURRED VIOLET. (H. and C.)
Ravines and rich woods; common. May, June.
Casc. Cr., and all ravines. McGowan Woods. Woods of Dryden, Danby, Lansing and north. Specimens coll. May, 1882, show double flowers, the sepels, petals and stamens being 6–9 each, the number of spurred petals 2–4 in each flower, and the placenta 3 or rarely 4.

108. V. striata, Ait. PALE VIOLET.
Rich woods; not common. May 15–June 15.
Fall Cr. near Cold Spring. Six Mile Cr. Negundo Woods. McGowan Woods. Taughannock ravine. Woods of Freeville and Round Marsh.

109. V. Canadensis, L. (H. and C.)
Ravines and rich swampy woods. May–July.

110. *V. pubescens, Ait. DOWNY YELLOW VIOLET. (H. and C.
Ravines and rich woods. May–June.

111. V. pubescens, Ait., var. eriocarpa, Nutt.
Mead Woods. McGowan Woods. Six Mile Cr. Renwick Farm. Freeville, abund.

## POLYGALACEÆ.

### 49. POLYGALA, Tourn.

112. P. verticillata, L. (H. and C.)
Dry soil, on banks of the ravines and Cayuga L. shore. July–Sept.

113. P. ambigua, Nutt. (C.)
Similar situations; scarce.
Big Gully, 1827, (*in Herb. J. J. Thomas.*)

[P. sanguinea, L., in Sartwell's Cat.]

114. *P. Senega, L. SENECA SNAKE-ROOT. (H. and C.)
Slopes of ravines; frequent. May 15–June 15.
Casc. Woods. Six Mile Cr. Fall Cr. Ravines of Cayuga Lake. Bald Hill and the Pinnacles near White Church.

115. *P. paucifolia, Willd. FRINGED POLYGALA. INDIAN PINK. (H. and C.)
Thickets and along ravines; widely distributed. May.

## CARYOPHYLLACEÆ.

### 50. DIANTHUS, Linn.

116. D. ARMERIA, L.
Fields; scarce. DEPTFORD-PINK. July–Aug.
Near the road south of Burdick's Glen. In Cascadilla Valley near Turkey Hill. Meadow S. W. of Freeville.

117. D. BARBATUS, L. SWEET WILLIAM.
Established in woods by Rumsey's Brook, eastern base of Saxon Hill. In Casc. Woods, June, July, 1884 and 1885, (*Miss Hale.*) Lot south of the cemetery, (*F. T. Wilson.*)

51. SAPONARIA, Linn.

118. *S. OFFICINALIS, L. BOUNCING BET. (H. and C.)
Roadsides, and near brooks. July–Sept.

52. SILENE, Linn.

119. **S. stellata**, Ait. STARRY CAMPION. (H. and C.)
Banks of ravines; scarce. July–Aug.
Beyond the "Nook." Renwick Farm slope. Salmon Cr. ravine.

S. ARMERIA, L.
Ithaca, by road south-east of steamboat landing, July, 1885. Near Six Mile Cr. by Cayuga St.

120. **S. antirrhina**, L. SLEEPY CATCHFLY. (H. and C.)
Fields or dry banks; not common. May–June.
Cascadilla Woods, abund. in 1885. By R. R. south of Ithaca. The cedar knoll near High Cliffs of Cayuga L. Near McKinney's.

* **S. Pennsylvanica**, Michx. (C.)
"In vicinity of Aurora," 1840, in catalogue of Dr. Alex. Thompson, as native, but probably a garden-scape.

[S. VIRGINICA, L. *Sartwell, in H. and C.* Penn Yan. Probably not established.]

[S. NOCUTURNA, L. *Sartwell, in C.* Probably not established.]

121. S. NOCTIFLORA, L. NIGHT-FLOWERING CATCHFLY. (H. and C.)
Waste places; frequent. June–Oct.

53. LYCHNIS, Tourn.

L. VESPERTINA, Sibth.
Fiske-McGraw grounds, west of the spring, 1884 and 1885.

122. *L. GITHAGO, Lam. CORN COCKLE. (H. and C.)
Grain-fields; frequent. June.

54. CERASTIUM, Linn.

123. C. VISCOSUM, L. MOUSE-EAR CHICKWEED. (C. by Dr. Wright.)
Fields; common. Mar.–Dec.

* C. VULGATUM, L. (*in Sartwell's Catalogue.*)

124. **C. nutans**, Raf.
Moist places, in ravines or woods. May–June.
Fall Cr. near mill-pond. Coy Glen. Renwick Farm. South Hill. Lake-shore ravines. Swampy woods north of Freeville. (Watkins, E. side of valley)!

125. **C. arvense**, L. (C.)
Rocky places; scarce.
Ithaca cemetery, probably introduced; also Fiske-McGraw grounds. (Watkins, E. side of valley on rocks; native.)

55. STELLARIA, Linn.

126. *S. MEDIA, Smith. CHICKWEED. (H. and C.)
Fields, etc. Mar.–Dec.

127. **S. longifolia**, Muhl. STITCHWORT. (H. and C.)
Wet places and swamps. May 15–July.
Indian Spr. Marsh. Formerly on Univ. Campus N. W. of the Pres. White place, (*F. C. Curtice,*)! Freeville. Beaver Creek Swamp. Brookton Spr.

128. **S. borealis**, Bigelow. NORTHERN-STITCHWORT. (H. and C.)
Moist soil; scarce; June.
South Hill. Swamps of W. Dryden, Freeville and Beaver Cr.

S. GRAMINEA. L.
Introduced in several places on the Fiske-McGraw grounds, 1885!

56. ARENARIA, Linn.

129. A. SERPYLLIFOLIA, L. SANDWORT. (H. and C.)
Fields, gardens, etc. May–Dec.

130. **A. lateriflora**, L. (H. and C.)
Marshes and Sphagnum Swamps; scarce. May 20–June.
Indian Spr. Marsh. Larch Meadow. Fleming Meadow. Across the road from the Valley Cemetery. Freeville, in Mud Cr. Sw. Malloryville Marsh. South Hill, Ithaca, near the quarry, (*F. C. C.*) Lockwood's Flats, (*Herb. J. J. Thomas.*)

57. SPERGULA, Linn.

131. S. ARVENSIS, L. CORN-SPURRY. (C.)
Cult. fields; at present only on the higher hills; not common. July–Aug.
Snyder Hill. Turkey Hill. Top of Taft Hill, Caroline. Top of Saxon Hill, Newfield. High hills south of Danby.

## PORTULACACEÆ.

58. PORTULACA, Tourn.

132. P. OLERACEA, L. PURSLANE. (H. and C.)
Gardens and roadsides. July–Sept.

59. CLAYTONIA, Linn.

133. *C. Virginica, L. SPRING BEAUTY. (H. and C.)
Rich woods; abundant Apr. 15–May 15.
Six Mile Cr. Mead Woods. Negundo Woods. Freeville, McLean, and especially abundant in pastures E. of Levanna and Union Springs.

134. **C. Caroliniana**, Michx. SPRING BEAUTY. (H. and C.)
Rich woods, often in shaded swamps, in moss; rather less common than the preceding. Apr. 15–May 15.
Six Mile Cr. Negundo Woods, and about the same range as the preceding. It mostly replaces it on the higher ground farther from the lake, E. of Levanna and Union Springs.

## HYPERICACEÆ.

60. HYPERICUM, Linn.

135. **H. Ascyron**, L. (*H. pyramidatum*, *Ait.*, Man., p. 84.) TALL ST. JOHNSWORT. (H. and C.)
Banks of streams, in rich soil; scarce. July 15–30.
Fall Cr. near Varna; (*Dr. Jordan*, 1871); Beebe Pond; near Cayuga St. bridge. Casc. Cr.; below Genung's Mill; above Judds Falls; head of Eddy Pond; in the ravine opposite Cascadilla Place.

136. H. PERFORATUM, L. COMMON ST. JOHNSWORT. (H. and C.)
Fields; very abundant. July–Aug.

137. **H. maculatum**, Walter. (*H. corymbosum*, Muhl., Man., p. 85.) (H. and C.)
Banks and shaded places; frequent. July–Aug.
Near Willow Pond race. Fall Cr. Pastures and woods near Freeville, McLean, and elsewhere.

138. **H. mutilum**, L. (H. and C.)
Wet places; common, July–Sept.
An erect form on Goodwin's Point, Cayuga L.

139. **H. Canadense**, L.
Marshes; rare, in Summit Marsh. Aug.

140. **H. Canadense**, L., var. **major**, Gray.
Wet places, and marshes; rare. Aug.
Goodwin's Point, where the leaves are sometimes 1–1¼ cm. broad. Summit Marsh, in the water, when the leaves are narrow and red. Rarely on the Montezuma Marshes.

61. ELODEA, Juss. MARSH ST. JOHNSWORT.

141. **E. campanulata**, Pursh. (*Elodes Virginica*, Nutt., Man., p. 86.) (H. and C.)
In sphagnum and other marshes; frequent. Aug.

## MALVACEÆ.

62. MALVA, Linn.

142. *M. ROTUNDIFOLIA, L. MALLOW. (H. and C.)
Waste places and roadsides. June–Oct.

143. M. SYLVESTRIS, L.
An occasional wayside scape.
Near Ithaca, (*Herb. of C. Humphrey.*) Near White Church. E. of Locke Pond.

144. M. MOSCHATA, L. MUSK-MALLOW.
Roadsides and fields; becoming frequent. July–Sept.
Cascadilla Cr. near Cascade Pond. Frequently met with in Enfield and Newfield. Dryden. Frequent in Groton valley.

63. ABUTILON, Tourn.

145. A. AVICENNÆ, Gærtn. VELVET-LEAF. (H. and C.)
Waste places; not common. Aug–Oct.
Renwick Farm. Six Mile Cr. near Ithaca, and near old buildings.

64. HIBISCUS, Linn.

146. **H. Moscheutos**, L. ROSE-MALLOW. SWAMP HIBISCUS.

Marshes near foot of Cayuga L. Aug.

Union Springs, near Farley's Point; also marsh north of depot. Abundant in a marsh of several acres south of Hill's Branch. A low marshy island of six or eight acres in the middle of Black Lake, has been for several years nearly covered with the noble flowers of this plant. Occasional throughout the Cayuga and Montezuma Marshes.

147. H. TRIONUM, L. FLOWER-OF-AN-HOUR.

In cult. grounds; scarce. **Summer.**

The gardens and orchards on Farley's Pt. Univ. Campus, near the Gymnasium, 1884, (*Miss Hale.*)

ALTHÆA ROSEA, L., the common HOLLYHOCK, has appeared several times by the old roads near the steamboat landing, Ithaca.

## TILIACEÆ.

65. TILIA, Linn.

148. ***T. Americana**, L. BASSWOOD. (H. and C.)

Along the ravines, and in rich woods; common. July 12–30.

## LINACEÆ.

66. LINUM, Linn.

149. **L. Virginianum**, L. (H. and C.)

Dry woods, slopes of ravines; infrequent. July–Aug.

Fall Cr. Coy Glen. Near White Church. Valley near W. Danby.

L. USITATISSIMUM, L. COMMON FLAX. (H. and C.)

Fields and roadsides; probably not permanent. July.

Near Cascadilla Bridge, and W. of Casc. Place. Taft Hill, Caroline, and other places.

## GERANIACEÆ.

67. GERANIUM, Linn.

150. ***G. maculatum**, L. CRANES-BILL. (H. and C.)

Ravines, woods and hedges; common. May–June.

151. **G. Carolinianum**, L.

Scarce near Negundo Woods; on South Hill, Ithaca; and by R.R. north of Levanna.

152. G. PUSILLUM, L. LITTLE CRANES-BILL. (H. and C.)

Rare, and of recent introduction. Albany St., Ithaca, 1882, and on the Fiske-McGraw grounds, 1885.

153. ***G. Robertianum**, L. HERB ROBERT. (H. and C.)

In moist shaded places, ravines and elsewhere; common. May–Sept.

68. FLŒRKEA, Willd.

154. **F. proserpinacoides**, Willd. FALSE-MERMAID.

In rich woods; scarce. Apr., May.

Negundo Woods. Along Buttermilk Cr., above the upper reservoir. Ellis Hollow. Near Beaver Cr., McLean. Woods N. E. of Freeville. "Near Auburn, N. Y., in wet part of woods where my carex (*C. Careyana*) grows." (*John Carey in Sartwell's Herb.*)

69. IMPATIENS, Linn.

155. *I. pallida, Nutt. PALE TOUCH-ME-NOT. (H. and C.)

In rich woods, along rivulets and ravines; common. July–Aug.

Especially abundant in the vicinity of Woodwardia Swamp and Mud Cr., where a form having flowers of a pale pink with pink spots is found. A white-flowered form was found east of Locke Pond.

156. *I. fulva, Nutt. SPOTTED TOUCH-ME-NOT. JEWEL-WEED. (H. and C.)

In situations similar to the preceding, but more abundant.

70. OXALIS, Linn.

157. *O. acetosella, L. PINK OXALIS. (C. by Dr. Wright.)

In moss of deep hemlock swamps, and in ravines; frequent. June–July.

Ellis Hollow Sw. Enfield ravine and elsewhere.

158. O. corniculata, L., var. stricta, Sav. [*O. stricta, L., Gray's Man.*, p. 109.] YELLOW WOOD-SORREL. (H. and C.)

Fields, dry woods and elsewhere.

## RUTACEÆ.

71. XANTHOXYLUM, Colden.

159. X. Americanum, Mill. PRICKLY ASH. (H. and C.)

Rich soil; not common. May.

Negundo Woods. Renwick Farm slope. Occasional throughout the Neguæna valley and along the low points on the lake-shore. Also in Lansing and Dryden.

72. AILANTHUS, Desf.

160. A. GLANDULOSUS, Desf. AILANTHUS.

Introduced abundantly about Ithaca. North of Glen Pond. Cascadilla Cr., below the bridge. E. Hill, near Buffalo St., and University Street. South Hill. The Circus Common. Cayuga Lake, Near McKinney's.

## ILICINEÆ. [AQUIFOLIACEÆ, Gray's Man., p. 305.]

73. ILEX, Linn.

161. I. verticillata, Gray. WINTER-BERRY. BLACK ALDER. (H. and C.)

Along streams and marshes; frequent. July.

Its bright red berries especially conspicuous in Ind. Spring Marsh near the lake. Specimens with slender, light colored twigs, are occasionally seen which seem to approach *I. lævigata*, Gray.

74. NEMOPANTHES, Raf.

162. N. Canadensis, DC. "MOUNTAIN HOLLY." (H. and C.)

Borders of sphagnum swamps, where it is frequent. May 15–30.

Larch Meadow, formerly. Enfield Spruce Swamp. The Brookton springs. In all the peat-bogs of Dryden.

## CELASTRACEÆ.

### 75. CELASTRUS, Linn.

163. *C. scandens, L. BITTER-SWEET. (H. and C.)

Banks of streams, fences, etc.; frequent. June 15–July 15.

Casc. ravine. Along brooks north of Fall Cr., and especially fine fruiting specimens along the declivities of the lake-shore.

### EUONYMUS, Tourn.

[E. atropurpureus, Jacq., was discovered by *Fred V. Coville*, in 1885, near Watkins, N. Y., on the rocks by the road on the east side of the valley. It is also in Sartwell's Cat. of 1844.]

## RHAMNACEÆ.

### 76. RHAMNUS, Tourn.

164. R. CATHARTICA, L. BUCKTHORN.

An occasional scape from hedges. May 15–June 15.

Wild south of Fall Cr., W. of Cayuga Southern R. R. On the cliffs south of Levanna, and in Paine's Cr. Planted about the Fiske-McGraw grounds, near Willow Ave., and elsewhere.

165. R. alnifolius, L'Her. (H. and C.)

In cold springy marshes, where it is frequent. May 15–30.

Indian Spring Marsh. Larch Meadow. Fleming Meadow, and in similar situations within the limits of the Flora.

### 77. CEANOTHUS, Linn.

166. *C. Americanus, L. JERSEY TEA. (H. and C.)

Dry woods, along ravines and elsewhere; common. July.

## VITACEÆ.

### 78. VITIS, Tourn.

167. V. LABRUSCA, L.

Rare, and here probably introduced; by R. R. near the Glass Works, Ithaca; in Enfield ravine, in "Lucifer's Kitchen." Roadside one mile south of Mecklenburg.

168. V. æstivalis, Michx. SWEET FROST-GRAPE. (C. by Dr. Wright.)

Dry woods and banks; frequent. June 20–July 10.

Cascadilla Woods, etc., but especially abundant along the lake shore, where it runs into several forms, some with large clusters, the berries less than 1 cm. in diameter, some with berries 1½ cm. in diam., in small clusters.

169. V. riparia, Michx. (*V. cordifolia* of Man., p. 112, in part.) FROST GRAPE. (H. and C.)

River banks and rich soil, usually; common. June.

Casc. Cr., and especially abund. about Indian Spring, Negundo Woods and up the Neguæna valley; also along Cayuga Lake shore. This is a very conspicuous vine along the rich alluvial banks of our streams, and often climbs to the tops of the tallest trees. It is dis-

tinguished from the true *V. cordifolia, Michx.*, which scarcely extends to our latitude from the South and West, by the broad, rounded leaf-sinus, the narrow diaphragm separating the pith at the nodes of the branches, (about ¼–½ mm. in thickness), the larger thinner stipules (4–6 mm. long) while the seeds have a less distinct raphe, and the flowering time is from 2 to 4 weeks earlier in the same locality.

[V. cordifolia, Michx., is not certainly known within our limits, although specimens with narrow leaf-sinus have been noticed on Lockwood's Flats and elsewhere. They are all wanting, however, in decisive characters connected with the diaphragms. It is in *Sartw. Herb.*, at least so-named.]

79. AMPELOPSIS, Michx.

170. A. quinquefolia, Michx. VIRGINIA CREEPER. (H. and C.)
Fences and in rich soil ; common. July.
This vine covers the cliffs on the lake-shore, below McKinney's, where it is especially beautiful in autumn.

## SAPINDACEÆ.

80. STAPHYLEA, Linn.

171. *S. trifolia, L. BLADDER-NUT. (H. and C.)
Rich soils along streams and in rocky places; scarce. May 15–June 15.
Creek banks near Negundo Woods, and in a few localities between this and Ithaca. S. W. corner of Cayuga L. and in a few of the small ravines along the Ledyard, Genoa and Lansing shores. Frontenac Id.

81. ÆSCULUS, Linn.

172. * Æ. HIPPOCASTANUM, L. HORSE-CHESTNUT.
Escaped from cultivation, in Cascadilla ravine below the bridge. On South Hill, and on Rocky Point, Cayuga L. May 15–30.

82. ACER, Tourn.

173. A. Pennsylvanicum, L. STRIPED MAPLE. (H. and C.)
Ravines and cold woods on the high hills; frequent. May 20–June 20.

174. A. spicatum, Lam. MOUNTAIN MAPLE. (H. and C.)
Ravines, woods and rocky hillsides; frequent. May 20–June 20.
Specimen south side of Six Mile Cr. Narrows nearly 10 cm. in diameter.

175. *A. saccharinum, Wang. SUGAR MAPLE. (H. and C.)
Ravines and woods; common. May 12–30.
Large groves of these toward Cortland; also a large element in the woods of Dryden, Caroline, Danby, Enfield and Newfield.

176. A. saccharinum, L, var. nigrum, Gray. BLACK MAPLE. (Seeming like a distinct species.) (C. by Dr. Dwight.)
Richer soil than the preceding ; not common.
Toward Enfield (*Jordan*)! Negundo Woods, Indian Spring, and at the Corner-of-the-lake, Taughannock, Paine's Cr., and Big Gully ravines and elsewhere, chiefly near the level of the lake.

177. A. dasycarpum, Erhart. WHITE MAPLE. SILVER MAPLE. (C. by Dr. Wright.)

Mostly in alluvial soil on the lower levels; frequent. Mar.–April.

Marshes near the Lake (*Jordan*)! Negundo Woods and south. Occasional in the swampy regions of Lansing and Dryden, and very abund. in the woods on the Cayuga and Montezuma Marshes. One of the earliest bloomers.

178. * A. rubrum, L. RED MAPLE. SOFT MAPLE. (H. and C.)

Chiefly on the hillsides or in upland woods and swamps; common. April.

83. NEGUNDO, Mœnch.

179. N. aceroides, Mœnch. BOX-ELDER.

In "Negundo Woods" at a bend of the creek, 1½ miles south of Ithaca. Discovered here by Professor Branner, when a student, June, 1873. The only station reported for N. York State until 1885, when Negundo was reported from near Binghamton by Dr. Millspaugh in the Bull. of the Torr. Club. There were, when first discovered, about 20 trees, at the Ithaca station, ranging from $\frac{1}{10}$ to $\frac{1}{2}$ meter in diam., and without doubt indigenous. Since then most of them, together with the magnificent old Buttonwoods and Elms, have been cut down. There are some young trees, both here, on the banks of the creek below the railroad bridges, and near the McGraw barns.

## ANACARDIACEÆ.

84. RHUS, Linn.

180. R. typhina, L. STAGSHORN. (H. and C.)

Ravines and hillsides; common. July 1–15.

181. * R. glabra, L. SMOOTH-SUMAC. (H. and C.)

Banks and hillsides; frequent. July 10–30.

Slopes of East Hill, South Hill, and abundant on shore of Cayuga Lake.

182. R. venenata, DC. POISON SUMAC OR P. DOGWOOD. (H. and C.)

Marshes; not common. July 1–20.

Indian Spring Marsh, and occasional in the sphagnum swamps.

183. * R. Toxicodendron, L. POISON IVY. (H and C.)

Low grounds and rocky places; common. June–July.

184. R. aromatica, Ait. AROMATIC SUMAC. (H. and C.)

Rocky declivities, where it is frequent. May.

Fall Cr., near Triphammer Falls, and elsewhere. Found on South Hill, in Six Mile Cr., in all the ravines, on the high "Pinnacles" at West Danby and White Church, and especially abund. on the E. shore of the lake.

## LEGUMINOSÆ.

85. BAPTISIA, Vent.

185. B. tinctoria, R. Br. WILD INDIGO.

In Junius, Seneca Co. (*Sartwell in Herb. and C.*)

86. LUPINUS, Tourn.

186. **L. perennis**, L. LUPINE.

Dry woods, where it is not uncommon. May 10–June 10.

Cascadilla woods, near the Gymnasium, and the Psi-U. House. Near all our ravines, also in woods on the high hills of Newfield, Danby and Caroline. "Junius." (*Sartw. in H. and C.*)

87. MEDICAGO, Linn.

187. M. SATIVA, L. LUCERNE.

Sparingly introduced on the Campus, also on the Pine Knoll in Casc. Woods, 1871, from which it has recently disappeared. On Cayuga L. shore at Canoga.

188. M. LUPULINA, L. BLACK MEDICK.

A weed. Chiefly near the large towns, the lake and R. Roads. May–Sept. Junius. (*Sartw. Herb. and C.*)

88. MELIOTUS, Tourn.

189. *M. OFFICINALIS, Willd. YELLOW MELILOT. (H. and C.)

Near the shore of Cayuga Lake. June–Aug.

Ledyard, (*Herb. Thomas.*) Rare near the Inlet. McKinney's. Abund. from Union Springs to Montezuma.

190. *M. ALBA. Lam. SWEET CLOVER. (H. and C.)

Very common along Cayuga L. and the gravelly banks of the creeks. Ledyard. (*Herb. Thomas.*) June–Oct.

89. TRIFOLIUM, Linn.

191. *T. PRATENSE, L. RED CLOVER. (H. and C.)

Common. June–Oct.

192. T. HYBRIDUM, L. ALSIKE. (Intermediate in aspect between *T. pratense* and *T. repens.*

Roadsides; fields; frequent. June–Aug.

First noticed as a scape, at McLean and Ithaca, 1878. Frequently cultivated in Danby, Enfield, Ovid and elsewhere.

193. *T. REPENS, L. WHITE C. (H. and C.)

Common. June–Oct.

194. T. AGRARIUM, L. YELLOW OR HOP-CLOVER. (H. and C.)

Gravelly soil; chiefly on the hills. June–July.

Scarce; near the Valley Cemetery, on the hills near White Church and West Danby; but abundant on the hill-farms in eastern part of Danby.

195. T. PROCUMBENS, L. LOW HOP CLOVER.

Of recent introduction; Univ. Campus, 1882; in bloom in July, in pasture north of the Glen Pond; also in Ithaca Cemetery.

LOTUS, Linn.

L. CORNICULATUS, L.

Appeared in the turf on the Fiske-McGraw grounds, in bloom Aug. 1885.

90. TEPHROSIA, Pers.

196. **T. Virginiana**, Pers. HOARY PEA.

Dry sandy soil. "Junius," (*Sartwell, H. and C.*)

91. Robinia, Linn.

197. * R. Pseudacacia, L. Locust-tree.
Ravines and hillsides ; frequent. June 1–15.
Cascadilla, and most of the larger ravines, and abundant along the smaller ravines bordering on the lake.

198. R. viscosa, Vent. Clammy Locust.
Escaped ; at Aurora, a few shrubs near the R. R. track. June 15–30.

92. Astragalus. Linn.

199. **A. Canadensis**, L. Milk Vetch. (H. and C.)
Cayuga Lake shore ; infrequent. July.
Corner-of-the-lake, Bushy Point, Crobar Point, and occasional on both shores as far as Cayuga Bridge.

200. **A. Cooperi**, Gray. (H. and C.)
Cayuga L., on the rocky banks ; rare. July.
South of Shurgur's Glen, (*F. B. Hine*)! North of Ludlowville. A considerable number on the cliff south of Levanna.

93. Desmodium, DC. Tick Trefoil.

201. **D. nudiflorum**, DC. (H. and C.)
Dry woods ; frequent. July 20, Aug.
A white-flowered form on Thacher's Pinnacle, W. Danby. A small form (approaching *D. pauciflorum*, *DC.*,) with leaves scattered along the slender ascending stem, is not uncommon, especially on the higher hills.

202. **D. acuminatum**, DC. (H. and C.)
In richer woods than the preceding ; common. July 15–Aug.

203. **D. rotundifolium**, DC.
Sunny copses ; frequent. Aug.
Casc. Woods, Fall Cr. and other ravines. White Church. Thacher's Pinnacle. "Junius," (*Sartwell H. and C.*)!

[**D. canescens**, DC.
"Seneca L. *Beck in Herb.*" *Paine's Cat.* p. 73. Gorham. *Sartwell in H. and C.* "Abund. in gully E. of Penn Yan." (*Dr. Wright.*)]

204. **D. cuspidatum**, Torr. and Gray. (H. and C.)
Rich dry woods ; not common. Aug.
Casc. Woods. Coy Glen. White Church, and elsewhere.

205. **D. Dillenii**, Darlingt. (C.)
Along ravines and in dry woods ; frequent. Aug.
Varies considerably, the more downy forms approaching *D. viridiflorum*, Beck. Paine gives "Seneca L." as a station for *D. viridiflorum*, Beck. on authority of Sartwell, but I have not yet seen the true form in this region.

206. **D. paniculatum**, DC. (H. and C.)
In woods and ravines ; frequent. Aug. 10–30

207. **D. Canadense**, DC. (H. and C.)
Banks of creeks, and on the lake shore ; abundant. Aug, Sept.

208. **D. rigidum**, DC. (**C.** by Dr. Wright.)

Open thickets and hillsides; scarce. Aug.

Near ravine north of Enfield ravine. Near White Church. A form (possibly a hybrid *D. rigidum DC.* × *D. Marilandicum, Boott,*) with smoothish stem and leaves 3–4 cm. long, nearly smooth, occurs at White Church.

209. **D. Marilandicum**, Boott. (**H.** and **C.**)

Open thickets; not common. Aug.

Coy Glen (*F. B. Hine.*) Near White Church. var. *β.* Torr. and Gray, with larger leaflets occurs near Fall Creek mill-pond, and near White Church.

[**D. ciliare**, DC. At Penn Yan (*Sartwell, H. and C.*)]

94. LESPEDEZA, Michx. BUSH CLOVER.

210. **L. repens**, Bart. (*L. repens*, Torr. and Gray and *L. procumbens*, Michx. See Gray's Man., p. 137. (**H.** and **C.**)

Dry banks; rare. Aug.

Banks of ravine north of Enfield ravine. (S. 4½ × W. 6½.) At same place, is a form approaching *L. violacea*, Pers., in the character of loments.

211. **L. violacea**, Pers. (*L. violacea* var. *divergens*, of Man., p. 137) (**H.** and **C.**)

The common form bears numerous thin leaves and rather glomerate clusters of purple flowers, (but is quite different from *L. reticulata*, Pers.,) Frequent in dry woods. Aug.–Sept.

212. An open loosely panicled form with handsome flowers in pairs, large, nearly 1 cm. long, and with large ovate acuminate pods; occurs on Farley's Point.

213. A form with thin leaves and slender stem, but with petioles and stem pubescent with spreading hairs, the flowers pink or only the vexillum purplish, and the short racemes peduncled, seems to belong here although it may be a hybrid between this species and the next. It occurs in Casc. Woods and on banks of ravine north of Enfield ravine.

214. **L. Stuvei**, Nutt.

Dry banks; scarce. Aug.–Sept.

Hillside near White Church. Banks of ravine north of Enfield ravine.

215. **L. hirta**, Ell. (**H.** and **C.**)

Dry banks and woods; common. Aug.–Sept.

216. **L. capitata**, Michx.

Rare, on the wild bank beyond the Fleming S. H. Aug. 20–Sept. 20.

(Milo, roadside. *Dr. Wright.*)

95. VICIA, Tourn.

217. V. SATIVA, L. COMMON VETCH. (**H.**)

Roadsides and banks; occasional. June–Sept.

In the valley south of Ithaca, along Cayuga L. and elsewhere.

218. **V. Cracca**, L. (H. and C.)
On the sand bank west of Mr. Howard Williams', since 1871 (abundant by R. R. near Cortland depot.) July; appearing as if introduced here.

219. **V. Caroliniana**, Walt. (C.)
Ravines and banks; common. May 10--30.

220. **V. Americana**, Muhl. (H. and C.)
Only along Cayuga L. and its marshes, where it is frequent. June–July.

96. LATHYRUS, Linn.

221. **L. venosus**, Muhl. "? Geneva" in Sartwell's Herb." "Cayuga L.," (*Herb. Thomas.*)

222. **L. ochroleucus**, Hook. (H. and C.)
Hillsides and thickets; not common. May.
Fall Cr., and other ravines, also ravines and woods of Cayuga lake shore.

223. **L. palustris**, L. MARSH VETCHLING. (H. and C.)
Shores and borders of marshes; not common. July.
Near the Corner-of-the-lake. Shore of Cayuga L., at Marion's, on Bushy Point, and occasional to Cayuga Marshes.

224. **L. palustris**, L. var. **myrtifolius**, Gray. (H. and C.)
Shore of Cayuga L.; not common. July–Aug.
Near Marion's. Near Treman's. Myers Point. Near Union Springs.

97. AMPHICARPÆA, Ell.

225. ***A. monoica**, Nutt. HOG PEA-NUT. (H. and C.)
Thickets, shores, etc.; common. Aug.–Sept.

98. APIOS, Boerheave.

226. **A. tuberosa**, Mœnch. GROUND-NUT. (H. and C.)
Rich alluvial soil; abundant in the Neguæna valley, and along the lake. Aug.
Cascadilla ravine. Negundo Woods and south. Myers Point. Cayuga Marshes.

99. CASSIA, Linn.

227. **C. Marilandica**, L. WILD SENNA.
Rare. Roadside near the fork of the Slaterville and Brookton roads, E. of Ithaca.

100. GYMNOCLADUS, Lam.

228. **G. Canadensis**, Lam. KENTUCKY COFFEE-TREE. (H. and C.)
Rare; along the borders of Cayuga L. May 25–June 10.
"At the bottom of a ravine near the borders of Cayuga L. (*Dr. Alex. Thompson*)," (see Torreys Flora, I, p. 191); also in Dr. Thompson's Cat. of 1841. It is quite likely the precise locality was Lockwoods Flats at the mouth of Big Gully, where Professor Thomas of Union Springs remembers to have seen it many years ago. "Ithaca (*in Herb. Van Duzer*)," (see Paine's Cat. p. 75). Town of Lansing "near Cayuga L." at McKinney's, (*Hon. H. B. Lord in*

*19th Report of Regents*, 1865, p. 77), who says there are one large (18 in.) and two small trees, which the people near suppose to be *mahogany* trees. The large and one small tree are still standing (1885). Three middle-size trees near the brook at Lake Ridge Sta.! Three rather large trees apparently indigenous near the Lehigh Valley R. R. round-house at Ithaca!

("On Seneca L. at Cachong Cr.—one tree 18 in. diam." (*J. Hall*, in Torr. Flora.) "Seneca Lake," (*Sartwell Herb.*) Near Fayette, Onondaga Co., (*Professor Underwood, letter of Feb.* 1886), "Onondaga Co." (*Mrs. Rust, Bull. of Torry Bot. Club, Vol. IX.*)

The above are the only stations known to me in N. Y., where *Gymnocladus* is presumably indigenous.

101. GLEDITSCHIA, Linn.

229. * G. TRIACANTHUS, L. HONEY-LOCUST. (H and C.)

Hillsides and banks of streams; occasional. June 20–30.

Near Casc. Cr., on the slope of East Hill, Six Mile Cr., South Hill and elsewhere near Ithaca.

G. MONOSPERMA, Walt.

A single young tree growing spontaneously, by one of the roads south of the steamboat landing.

## ROSACEÆ.

102. PRUNUS, Tourn.

230. P. PERSICA, L. PEACH.

Occasional, by roadsides. Near Indian Spring, toward Buttermilk Falls, and elsewhere. Probably it rarely self-seeds. First week in May.

231. P. Americana, Marshall. WILD PLUM. (H. and C.)

Ravines and thickets; common. May 1–20.

Two forms occur; one with gray, slender branches, larger flowers, and glandular calyx-lobes, occurs in ravines, often on swamp-borders. The other, with dark, stouter twigs, smaller flowers than the preceding, the calyx-lobes silky within, slightly or not at all glandular, occurs in hedges or more exposed places than the other.

232. P. DOMESTICA, L. GARDEN PLUM.

Escaped; not uncommon. May 15—25.

Cornell's Woods, Renwick-Farm slope, South Hill and elsewhere.

233. P. SPINOSA, L. SLOE.

Apparently rare. Shurgur's Point, Cayaga Lake. May.

234. P. AVIUM, L. ENGLISH CHERRY.

Ravines, and banks of Cayuga Lake; frequent. May 15–30.

All ravines near Ithaca, and especially abundant on both shores of the Lake, where it forms small thickets and groves on the cleared banks. Not uncommon on Turkey Hill, also in Enfield, Newfield and Dryden.

235. * P. CERASUS, L. SOUR CHERRY.

Escaped to roadsides, usually not far away from farm-houses; infrequent. May 15–30.

Dryden Road, near Heustis St., Renwick Farm, Danby and elsewhere.

236. **P. pumila**, L. DWARF CHERRY.

Rare. Only known on the hummocks of South Hill Marsh, ! where it was detected by Mr. Curtice, in 1882. May 25–June 10.

The habitat is unusual, and remarkable in view of the fact that it has been vainly sought for on the lake-shore, where it would be expected. Its drupes at our station are usually destroyed by *Exoascus Pruni*, *Fck'l*, a fungus.

237. **P. Pennsylvanica**, L. WILD RED CHERRY. (C.)

On newly cleared land and in ravines ; common. May 15–20.

238. * **P. Virginiana**, L. CHOKE CHERRY. (H. and C.)

Ravines and rocky banks ; common. May 10–25.

239. * **P. serotina**, Ehrh. WILD BLACK CHERRY. (H. and C.)

Woods ; frequent. May 20–June 30.

103. SPIRÆA, Linn.

240. **S. salicifolia**, L. MEADOW SWEET. (H. and C.)

Marshes and low grounds ; common. Aug.–Sept.

S. LOBATA, Murr.

A bed of this plant has been growing vigorously for some years on the marsh north of Ithaca. July.

104. NEILLIA, Don.

241. **N. opulifolia**, Benth. and Hook. (*Spiræa opulifolia*, *L.*) NINEBARK.

Cayuga L. shore, (*Jordan*), where it is abundant ! June 10–30.

"Ithaca," (*Sartwell Herb.*) Ledyard, (*Herb. J. J. Thomas.*)

It is especially abundant and beautiful on the shales of the High Cliffs, north of Kings Ferry. It occurs in Fall Cr., below the Mirror Falls, and in Taughannock ravine.

105. GILLENIA, Mœnch.

242. * **G. trifoliata**, Mœnch. BOWMAN'S ROOT. (H. and C.)

Dry woods, with *Ceanothus*, etc. ; frequent. June.

Casc. Woods, on the knoll near the Armory, and in similar situations.

106. DALIBARDA, Linn.

243. **D. repens**, L. (*Rubus Dalibarda*, *L.*) (C. by Dr. Wright.)

Borders of sphagnum swamps and hemlock woods. July–Aug.

Enfield ravine. Near Michigan Hollow Swamp, and not uncommon near the low woods and swamps, Freeville and McLean. Ledyard, (*Herb. J. J. Thomas.*)

107. RUBUS, Tourn.

244. * **R. odoratus**, L. FLOWERING RASPBERRY. (H. and C.)

Rocky or gravelly banks ; common. June–Aug.

Specimens with white and with pink flowers on west shore of the lake. (*F. B. Hine*, 1876. *F. T. Wilson*, 1882)!

245. **R. triflorus**, Rich. (C.)

Moist woods and hedges ; frequent. May.

246. R. neglectus, Pk. (See 22d Rep. of Regents, p. 53.) CREAMBERRY.
Hillsides and pastures; not uncommon. June–July.
Cayuga L., west shore near Marion's. W. Danby. Near Summit Marsh. Casc. Cr., above Judd's Falls.
It is distinguished by its stems recurved, (like *R. occidentallis*), and armed with unequal straight prickles, its pedicels armed with numerous slender prickles intermingled with stiff glandular hairs, its hispid calyx, its fruit dark red, intermediate in color between *R. strigosus* and *R. occidentalis*. It is distinct, but seems like a hybrid.

247. R. strigosus, Michx. RED RASPBERRY. (H. and C.)
Light soil, especially on newly cleared lands; common. June.

248. R. occidentalis, L. BLACK RASPBERRY. (H. and C.)
Hillsides, fences, etc.; common. June.

249. R. villosus, Ait. BLACKBERRY. (H. and C.)
Woods and thickets; common. May–June.

250. R. villosus, Ait. var. humifusus, Gray. (H.)
Cascadilla Cr., Taughannock and elsewhere; not common.

251. R. villosus, Ait. var. frondosus, Gray.
South Hill.

252. R. Canadensis, L. DEWBERRY. (C.)
Rocky places or old fields; frequent. June.

253. R. hispidus, L. SWAMP BLACKBERRY. (H. and C.)
Marshes and borders of sphagnum swamps; frequent. June.
South Hill Marsh, Larch Meadow and other cold, wet marshes.

108. GEUM, Linn.

254. G. album, Gmelin.
Hedges and moist banks; frequent. July.

255. G. Virginianum, L. (H. and C.)
With the preceding; frequent. June, July.

[G. macrophyllum, Willd.
S. H. Wright finds this in a gully E. of Penn Yan.]

256. G. strictum, Ait. "BLACKBURR," (local name.) (H. and C.)
Fields and hedges; common. June 25–July 15.

257. *G. rivale, L. PURPLE AVENS. (H. and C.)
Marshes; frequent. May 20–June.
South of Fall Creek, near Forest Home. Ellis Hollow swamp. Throughout marshes of Dryden and Danby.

109. WALDSTEINIA, Willd.

258. *W. fragarioides, Willd. BARREN STRAWBERRY. (H. and C.)
Ravine banks, thickets and woods; common. May 1–20.

110. FRAGARIA, Tourn.

259. F. Virginiana, Ehrh. WILD STRAWBERRY. (H. and C.)
Fields and pastures; common. May.

260. F. Virginiana, Ehrh. var. Illinoiensis, Gray.
In richer soil; less common. May.
Six Mile Cr. South Hill and near Cayuga L.

261. F. vesca, L. WOOD S. (H. and C.)
In woods and swamps or recently cleared land; frequent. May–June.

262. The var. alba, the "*Indian Strawberry*," is at Sherwood, and is not uncommon in that region, according to Mrs. Professor Brun. Its fruit is white and its leaves thicker and more shining than in the type. Also near Beebe Pond, (*Professor J. H. Comstock.*)

III. POTENTILLA, Linn.

263. P. RECTA, L.
Fields; scarce. July.
Near Union Springs, 1875!

264. P. Norvegica, L. (H. and C.)
Fields; common. July–Oct.

265. * P. Canadensis, L. FIVE-FINGER. (H. and C.)
Fields; common. May–July.

266. P. Canadensis, L. var. simplex, Torr. and Gr.
Dry banks; common.

267. P. argentea, L. SILVERY CINQUE-FOIL. (C.)
Gravelly or rocky hillsides. Not common. June–July.
Campus, south of Morrill Hall. South Hill. Lansing. Near Ludlowville. The cedar knoll near High Cliffs. E. of McLean, and elsewhere.

268. P. arguta, Pursh. (C. by Dr. Wright.)
Rocky or dry banks; rare. May 20–June 15.
South of Burdick's Glen, near the shore. Beyond the Fleming S. H., with *Lespedeza capitata*, and found in 1881 introduced in a grass-field south of McLean. (Watkins, N. Y., E. side of valley.)

269. * P. Anserina, L. SILVER-WEED. (H. and C.)
Sandy shores, where it is frequent. June–July.
Abundant at the head of Cayuga Lake (*Jordan*)! and on all the sandy points to Cayuga and Montezuma Marshes. Summit Marsh. Cortland Marl Ponds and Cayuta L.

270. P. fruticosa, L. HARD-HACK, OR SHRUBBY CINQUE-FOIL.
Sphagnum swamps; rare. June–Aug.
Round-Marsh (eastern.) Locke Pond, above bridge. Summit Marsh, east side, a few shrubs at each station. Junius, (*Sartwell in Herb. and C.*), where it is abundant about Newton's Ponds! ("Yates Co., (*Sartwell*)" in Torrey's Flora, I, p. 210.)

271. * P. palustris, Scop. MARSH FIVE-FINGER.
Marshes; infrequent. June 20–July 15.
Round-Marsh, (middle one.) By the pond S. E. of Chicago Sta. Locke Pond, (E. side.) Cayuga Marshes, from Cayuga to Montezuma. Cayuta L. (N. W. shore.) Junius, (*Sartwell H. and C.*)

112. AGRIMONIA, Tourn.

272. **A. Eupatoria**, L. AGRIMONY. (H. and C.)
Fields; common. July–Sept.

273. **A. parviflora**, Ait.
Marshy places; rare. Aug.–Sept.
W. Danby; collected by *F. C. Curtice*, June, 1882. Near Freeville, (one mile west), July and Sept. 1882. (Previously reported from N. Y., only from Rockland Co., in the 20th Rep. of Regents, p. 403.)

113. POTERIUM, Linn.

274. **P. Canadense**, Gray. CANADIAN BURNET. (C. by Dr. Wright.)
Sedgy sphagnum swamps; rare. Aug.
Larch Meadow, 1873! Along Mud Creek, Freeville. Locke Pond, in marsh.

114. SANGUISORBA, Linn.

[S. OFFICINALIS, L. Occurs well established along the West Shore R. R. east of Clyde Sta.]

115. ROSA, Tourn.

275. **R. blanda**, Ait. EARLY WILD-ROSE. (H.)
On the rocky banks of Cayuga L., where it is abundant. June.
Occasional up the Neguæna valley. Forms with pubescent leaves approaching the western var. **pubescens**, Crepin, occur near the lake shore.

276. **R. Carolina**, L. SWAMP ROSE. (H. and C.)
Swamps and low grounds; common. July.

277. **R. lucida**, Ehrh. SHINING ROSE.
North of Eddy Pond, and probably not rare. Near Junius Ponds. "Newfoundland to E. New York, and Penn.," (*Sereno Watson in "Revision of Roses of North Amer.,"* Proc. of Amer. Acad., Vol. XX, 1885, p. 147.) Mr. Watson writes that the above specimens are well marked, and from the most western station known to him. This species is from $\frac{1}{3}$—$1\frac{1}{2}$ m. tall, its leaflets more coarsely toothed than in *R. Carolina*, dark green and thickish, its stipules more or less dilated, and its spines stout and straight, or when old usually hooked.

278. **R. humilis**, Marshall. (*R. lucida*, of Man., p. 158, for most part.) DWARF ROSE. (H. and C.)
Dry woods and banks; common. June–July.
A taller, nearly unarmed form of this species grows on the lake shore banks south of McKinney's Sta., and elsewhere.

279. **R. setigera**, Michx. PRAIRIE ROSE.
Perhaps introduced in this region from the West; scarce. July.
Cascadilla ravine below the bridge; also north of Glen Pond. Six Mile Creek,—"amphitheatre." South Hill by R. R., near the Reservoir. Field near Utts Point,—always in wild places.

280. R. CINNAMOMEA, L. CINNAMON ROSE. Persists frequently by roadsides near houses. Seemingly spontaneous by road north of Cayuta L.

281. * R. RUBIGINOSA, L. SWEET-BRIER. (H. and C.)
Pastures and hillsides; frequent. July.

116. PIRUS, Linn.

282. P. MALUS, L. APPLE.
Self-seeding and frequent. May 1–25.
Casc. Cr., near Eddy Pond. Slopes of E. Hill and South Hill. Lake-shore and elsewhere.

283. P. COMMUNIS, L. PEAR.
Self-seeding occasionally. May 1–20.
North of Eddy Pond. Six Mile Cr., near Ferris Brook and elsewhere.

284. P. coronaria, L. WILD CRAB-APPLE. (H. and C.)
Hillslopes, frequently in moist soil; not uncommon. May 15–June 1.
The University Grove on the President White grounds (indigenous.) E. Hill slope. Renwick-Farm slope, and north of Fall Cr. Six Mile Creek, (a tree near the Valentine place, about 25 cm. in diam.), rather abundant on South Hill, near the "Incline," and beyond S. S. Sta. 420. On West Hill. In Danby, Newfield, and not uncommon near Union Springs. When in bud and partly in bloom this is the most beautiful and fragrant of our native Rosaceæ.

285. P. arbutifolia, L., var. erythrocarpa, Gray. CHOKE-BERRY. (H. and C.)
South Hill, near the R. R., on the rocky bank of the South Quarry Cr. Also near South Hill Marsh; not common. June.

286. P. arbutifolia, L., var. melanocarpa, Gr. CHOKE-BERRY.
Chiefly on the borders of sphagnum swamps; abundant. May 20–June 15.
Indian Spring Marsh. Larch Meadow, and cold marshes of Dryden, Danby, Enfield and elsewhere.

287. P. Americana, DC. MOUNTAIN ASH.
Indigenous, along the borders of sphagnum swamps; rare. June.
Woodwardia Sw. Malloryville Marsh. Round-Marshes. Michigan Hollow Swamp. Usually a mere shrub in our Flora. Occasionally cultivated, and small specimens—presumably scapes—are frequently found in upland woods, and by roads.

P. SAMBUCIFOLIA, Schlect. and Cham.; rarely escapes to roadsides.

117. CRATÆGUS, Linn.

288. C. OXYCANTHA, L. ENGLISH HAWTHORN. (H.)
Escaped to pastures; rare. June 1–25.
Cascadilla Cr., north of Cascade Pond, formerly. Grassy levels in Big Gully ravine. Pasture near Farley's Point. Many fine plants in cultivation on Farley's Point.

289. * C. coccinea, L. SCARLET THORN. (H. and C.)
Thickets and hillsides; common. May 15–30.
Many of our plants have appressed-hairy, instead of "glabrous" leaves.

290. C. coccinea, L. var. macracantha. (*C. glandulosa*, Willd. of most early American works. *C. macracantha*, Lodd, probably. Referred by Torr. and Gray, (1840,) to *C. coccinea*, L.; see *Flora*, I, p. 465.)

Hillsides and stony soil; frequent. May 20–30.

Near the Campus Brook. South Hill, beyond the "Incline," and beyond S. S. 420. Both shores of Cayuga L., from Rocky Point, north. Specimens from Union Springs are intermediate between this form and the true *C. coccinea;* nevertheless, this form, as seen in Central N. Y. and elsewhere, is so distinct from the type, that to fail to distinguish it by name in some way, gives rise to more or less confusion. It differs from the ordinary thin-leaved *C. coccinea*, L., in the following particulars: Branches usually long, straggling; branchlets stout, reddish, with globose or oblate, red shining buds. Thorns very long, 8–12 cm., rarely more, Leaves broadly obovate-cuneiform, lobed and doubly-serrate above, tapering by a wedge-shaped base into a stout petiole, coriaceous, smooth, shining, veins prominent. Calyx-lobes narrowly oblong or lanceolate, pectinately-glandular, while the broader calyx-lobes of *C. coccinea* are only sparsely glandular. Flowers are smaller and more abundant than in *C. coccinea*. Fruits smaller, not so fleshy, seeds bony and larger.

291. C. tomentosa, L. BLACK THORN. (H. and C.)

Hedges and moist soil; frequent. June 5–15.

Frequently without thorns, its calyx-lobes glandular-pinnatifid.

292. C. tomentosa, L., var. pyrifolia, Gray.

Ledyard, 1827. (*Herb. J. J. Thomas,*) "Near Auburn" (*J. Carey in Flora of N. Y.* I, p. 222.) North and South of Union Springs. Its leaves are rather ample, spatulate, long-petioled, somewhat shining and almost regularly serrate. It is distinct from the type in time of flowering (May 25–June 5), and in the entire glandless calyx-lobes (agreeing in both these points with the following variety.)

293. C. tomentosa, L. var. punctata, Gray. (C.)

Hillsides, fields, more rarely in woods; abundant. May 25–June 5.

Fruit usually a dull crimson, but yellow pomes occur near Etna, and Forest Home; in White Church valley and near Cayuta L.

294. C. Crus-galli, L. COCK-SPUR THORN. (H. and C.)

Pastures and fences.

Frequent near Cayuga L. from a region south and east of Ludlowville to Montezuma; also west and north of Sheldrake and Canoga; elsewhere absent.

118. AMELANCHIER, Medic.

295. *A. Canadensis, Torr. and Gray. (including var. *botryapium.*) JUNE-BERRY. SHAD-BUSH. (H. and C.)

Ravines and woods; frequent. May 1–20.

On Univ. farm (a large tree, the young leaves hairy.) Fall Cr., Casc. Cr., Eddy Pond, Six Mile Cr., Big Gully, etc., (all with young leaves nearly glabrous.)

296. A. Canadensis, Torr. and Gray. var. oblongifolia, Gray. (C.)

Ravines and woods; common. May 1–20.

297. **A. Canadensis**, Torr. and Gray. var. **rotundifolia**, Gray. (H. and C.)

Rocky banks and cliffs; not common. May 20–June 10.

Fall Cr. ravine (*F. L. K.*)! Cayuga L.; Kings Ferry, and north of Crobar Pt. Caroline on the cliffs near White Church. W. Danby, on Thacher's pinnacle.

298. **A. Canadensis**, Torr. and Gray; (form.)

(In sphagnum marshes, and agreeing with var. *oligocarpa* in character of the leaf and length of petals, but racemes usually have 4–6 flowers.) Round Marshes. South Hill Marsh. May 10–20

## SAXIFRAGACEÆ.

### 119. SAXIFRAGA, Linn.

299. **S. aizoides**, L. YELLOW MOUNTAIN-SAXIFRAGE.

Dripping cliffs; very rare. June 15–30.

Cliffs of Taughannock ravine, south side, below the falls; detected Oct. 1880. Elsewhere in N. Y. only at Fish Cr., Oneida Co., and at Portage and in Warsaw Glen, 1871, (*Dr. Jordan*)! also from Portage, (*Buffalo Cat.* p. 97.)

300. ***S. Virginiensis**, Michx. EARLY SAXIFRAGE. (H. and C.)

Rocks along ravines and brooks; common. Apr.–May.

301. **S. Pennsylvanica**, L. SWAMP SAXIFRAGE. (C.)

Wet cold swamps; frequent. May.

Indian Spring Marsh, Larch Meadow and elsewhere.

### 120. TIARELLA, Linn.

302. ***T. cordifolia**, L. FALSE MITRE-WORT. (H. and C.)

Ravines and cool banks; abundant. May-June.

### 121. MITELLA, Linn.

303. ***M. diphylla**, L. BISHOP'S-CAP. MITRE-WORT. (H. and C.)

Ravines and damp thickets; common. May–June.

304. **M. nuda**, L. (H. and C.)

Borders of sphagnum marshes; infrequent. May 20-June 10.

Ellis Hollow Swamp. Malloryville Marsh, (*F. P. Weeks*,)! Freeville, Fir-tree Swamp and Mud Cr. Round Marshes. Michigan Hollow. Bear Sw.

### 122. CHRYSOSPLENIUM, Tourn.

305. **C. Americanum**, Schw. GOLDEN SAXIFRAGE. (H. and C.)

Cold, springy places; frequent. Apr.-May.

### 123. PARNASSIA, Tourn.

306. **P. Caroliniana**, Michx. GRASS OF PARNASSUS. (H. and C.)

In springy places in all the ravines and in peat-bogs; frequent. Aug.-Sept.

### 124. RIBES, Linn.

307. **R. Cynosbati**, L. PRICKLY GOOSEBERRY. (H. and C.)

Dry woods, banks and cliffs; common. May.

Very common along the lake shore cliffs, when occasionally the berries are smooth; and the stems are often pendant, 3-4 m.

308. R. oxycanthoides, L. (*R. hirtellum*, *Mx.*, Man., p. 164)
SWAMP G. (H. and C.)
Low grounds; not uncommon. May 12-30.
Near Negundo Woods. Larch Meadow, and the marshes of Dryden.

309. R. rotundifolium, Michx.
Rocky slopes; not common. May 12-25.
South Hill near the "Incline." Near the "Nook" green-house. Road toward Enfield Falls? (*H. E. Summers.*) Groton.

310. R. lacustre, Poir.
Deep swamps; scarce. June.
"Freeville Sw." (*Jordan and Copeland*, 1872,—not in herb.) Swamp near Round-Marsh. Michigan Hollow. Ellis Hollow.

311. R. prostratum, L'Her. FETID CURRANT.
Cold woods and deep swamps; frequent. May 10-30.
Dart Woods and Ellis Hollow swamp, and in similar situations.

312. R. floridum, L. BLACK CURRANT. (C.)
Moist banks and along creeks; frequent. May.

313. R. RUBRUM, L. GARDEN CURRANT.
Escaped. Near Indian Spring. South Hill; scarce.

314. R. rubrum, L. var. subglandulosum, Maxim. WILD RED-CURRANT.
Cold woods and deep swamps; not common. May 10-25.
Ellis Hollow swamp. Dryden-Lansing swamp. (*Jordan*)! Freeville and Beaver Creek. Michigan Hollow. North of Cayuta L.

## CRASSULACEÆ.

### 125. PENTHORUM, Gronov.

315. P. sedoides, L. DITCH STONE-CROP. (H. and C.)
Low grounds; common. Aug.-Sept.

### 126. SEDUM, Tourn.

316. S. ACRE, L. GOLDEN OR MOSSY STONE-CROP.
Escaped sparingly; North side Fall Cr. below Ithaca Falls. Kidder's Ferry, rather abund. by the road. May 25-June 10.

317. S. TERNATUM, Michx.
Probably introduced; local. May 10-June 20.
Six Mile Cr. "apparently indigenous" in the *Narrows*—"the middle ravine with *Camptosorus*, detected by J. T. Duncan, May 18, 1870." (*Dr. Jordan.*) Abundant in the ravine of the Ferris brook where it is probably introduced, as it is along the brook in the Cemetery.

[S. telephioides, Michx.
Rocky places. "Seneca Lake," *Sartwell in C.: Prof. J. Hall in Flora of N. Y.* I, p. 252, and *S. H. Wright 22 N. Y. Rep.* p. 102; the latter writes that his station is just south of Starkey's landing.]

318. S. TELEPHIUM, L. LIVE-FOR-EVER.
Roadsides and fields; not uncommon. Aug-Sept.

Thoroughly established along the rocky banks of the lake shore, south of L. Ridge and elsewhere ; sometimes becoming a great pest in cultivated fields, east of Ithaca.

## DROSERACEÆ.

### 127. DROSERA, Linn.

319. **D. rotundifolia**, L. ROUND-LEAVED SUNDEW. (H. and C.)
Sphagnum bogs ; frequent. July 15–30.
Larch Meadow. Freeville sphagnum sw. Malloryville. Round-Marshes and elsewhere.

320. **D. intermedia**, Drev. and Hayne, var. **Americana**, DC. LONG-LEAVED SUNDEW.
"Junius," (*Sartwell in H. and C.*) ; in the Tamarack sw. north of the Pout Pond !

## HAMAMELACEÆ.

### 128. HAMAMELIS, Linn.

321. **H. Virginiana**, L. WITCH HAZEL. (H. and C.)
Woods and ravines ; common. Oct.–Nov.

## HALORAGEÆ.

### 129. MYRIOPHYLLUM, Vaill.

322. **M. spicatum**, L. COMMON WATER-MILFOIL. (H. and C.)
Common in the Inlet of Cayuga L., the mouth of Fall Cr., and throughout the lake and outlet in shallow water, to Montezuma. July, Aug.

323. **M. verticillatum**, L. (C.)
Scarce ; bayou near mouth of Fall Cr. (*Trelease*, 1878) ! Cayuga Bridge, 1874 ; occasional in the lake-outlet, and in the "Marl-pits," Montezuma Marshes. July–Aug.

324. **M. heterophyllum**, Michx.
Rare ; in the outlet of North Spring at Union Springs. July-Aug.

### 130. PROSERPINACA, Linn.

325. **P. palustris**, L. MERMAID-WEED. (C.)
In water of the larger marshes. Marsh near the Corner-of-the lake (*Mr. Lord.*) ! Cayuga Marshes. Summit Marsh.

### 131. HIPPURIS, Linn.

326. **H. vulgaris**, L. MARE'S-TAIL.
"Cayuga, *Dr. Jed. Smith*," (*Sartwell in H. and C.*) Not uncommon about the outlet of North Pond at Union Springs 40 or 50 years since. (*Prof'r J. J. Thomas.*) This rare plant—always rare for N. Y.—has not been rediscovered here, although it is possible that it still exists in Cayuga Marshes.

## MELASTOMACEÆ.

### 132. RHEXIA, Linn.

327. * **R. Virginica**, L. DEER-GRASS.
Sandy shores, (not now known in our Flora.) Aug.

In Dr. Thompson's Cat. of Plants near Aurora, (See Regent's Rep. 1841,) as *R. Mariana*. A specimen is in Herb. of Prof'r J. J. Thomas, without locality, but which he thinks was collected near Union Springs. It still exists about Oneida L.

## LYTHRACEÆ.

### 133. LYTHRUM, Linn.

328. L. SALICARIA, L. SPIKED LOOSESTRIFE.
Shores ; rare. July.
Near Inlet south of light-house (*Dr. Jordan*, 1869.) ! Shore of lake west of Inlet, (*F. B. Hine*, 1875.) ! The plants have continued, though not increased.

### 134. NESEA. Comm. Juss.

329. N. verticillata, H. B. K. SWAMP LOOSESTRIFE. (H. and C.)
Marshes ; not rare. Aug.
Near head of Cayuga L. (*Mr. Lord.*) ! Sheldrake, (*Dr. Jordan.*)! Farley's Point. North of Union Springs. Cayuga Marshes. Junius. Newton's Pond and Pout Pond.

## ONAGRACEÆ.

### 135. EPILOBIUM, Linn.

330. * E. angustifolium, L. WILLOW-HERB. FIRE-WEED. (H. and C.)
Newly-cleared land and lake shore ; common. July–Aug.
Form with pure white flowers at Freeville.

E. HIRSUTUM, L., found in 1874 by Edw. George, near mill west of Casc. Place.

331. E. palustre, L. var. lineare, Gray. (H. and C.)
Sphagnum and wet marshes ; infrequent. Aug.–Sept.
Larch Meadow. All the sphagnum swamps near Freeville and McLean. Locke Pond. Union Springs and Cayuga Marshes.

332. E. molle, Torr. (C.)
Sphagnum swamps ; infrequent, Aug.
Larch Meadow. Mud Cr., and Malloryville. Round Marshes. Michigan Hollow.

333. E. coloratum, Muhl. (H. and C.)
Wet rocks, ravines and shores ; common. July–Sept.

### 136. LUDWIGIA, Linn.

334. L. palustris, Ell. FALSE LOOSESTRIFE. (H. and C.)
Low grounds ; common. Aug, Sept.

### 137. ŒNOTHERA, Linn.

335. * Œ. biennis, L. EVENING-PRIMROSE. (H. and C.)
Low grounds by streams and shores ; common. July–Oct.

336. Œ. biennis, L. var. muricata, Lindl.
Ithaca. Freeville.

337. Œ. biennis, L., var. grandiflora, Lindl. Six Mile Cr. Narrows. Summit Marsh. Freeville near Fall Cr.

338. Œ. pumila, L. DWARF-EVENING-PRIMROSE. (C.)
Wet pastures and roadsides; abundant on the hills. June 20–July.
Not yet found about Ithaca, but frequent near South Hill Marsh; through Danby, Dryden, Caroline, Enfield. and above Paine's Cr. Falls.

138. GAURA, Linn.

339. G. biennis, L. GAURA. (H. and C.)
Sandy shores or dry banks; occasional. Aug.–Oct.
Near the Armory. Six Mile Cr. Pearson estate. Not rare on the sandy points all along Cayuga L.

139. CIRCÆA, Tourn.

340. C. Lutetiana, L. ENCHANTERS NIGHT-SHADE. (H. and C.)
Damp woods; common. July–Aug.

341. *C. alpina, L. (C.)
Cool hemlock woods and swamps; frequent. July–Aug.

## CUCURBITACEÆ.

140. SICYOS, Linn.

342. S. angulatus, L. STAR-CUCUMBER. (H. and C.)
Waste places; river banks. Aug.–Sept.
Near lake and in town (*Dr. Jordan*)! Negundo Woods. Shurgur's Glen. Near Ludlowville.

141. ECHINOCYSTIS, Torr. and Gray.

343. E. lobata, Torr. and Gray. WILD CUCUMBER. BALSAM APPLE.
Low grounds and river-banks; not common. Aug.
South of Ithaca, near R. R. Negundo Woods.

## FICOIDEÆ.

142. MOLLUGO, Linn.

344. M. VERTICILLATA, L. CARPET-WEED.
Roadsides; scarce. Aug.–Sept.
Near "Nook" green-houses. Near Corner-of-the-lake. On the Campus, (*Trelease.*)

## UMBELLIFERÆ.

143. HYDROCOTYLE, Tourn.

345. H. Americana, L. PENNY-WORT. (H. and C.)
Springy and moist soil; common. July–Sept.

144. SANICULA, Tourn.

346. S. Canadensis, L. SANICLE. (C.)
Ravines and rich woods; not common. June-July.
Six Mile Cr., Beechwoods flats. Borders of Dryden-Lansing Sw. Enfield ravine.

347. S. Marilandica, L. SANICLE. (C.)
Woods and thickets; frequent. June-July.

145. CONIUM, Linn.

348. C. MACULATUM, L. POISON-HEMLOCK. (H. and C.)
Waste places; common; (poisonous). July-Oct.

[BUPLEURUM ROTUNDIFOLIUM, L. is in the Sartwell Herb. from Gorham, Ontario Co.]

146. CICUTA, Linn.

349. * C. maculata, L. WATER-HEMLOCK. (H. and C.)
Marshes and swamps ; frequent. July-Sept.
Too much caution cannot be used in dealing with the Umbellifers. A death occurred in Ithaca a few years since from eating what were reported to be the seeds of this species. They were mistaken for those of some of the harmless members of the Order.

350. C. bulbifera, L. (H. and C.)
Marshes ; not common. Aug–Sept.
Inlet marshes, and near Renwick. Fall Cr. Beebe Pond. Summit Marsh. Round Marsh. Cayuga Marshes, frequent.

147. CARUM, Linn.

351. C. CARUI, L. CARAWAY.
Roadsides ; not uncommon. July.,
Often found in the hill towns, and the pink-flowered form near road from Danby to West Danby.

148. SIUM, Linn.

352. S. cicutæfolium, Gmelin. (*S. lineare*, Michx.) (H. and C.)
Marshes and swamps ; frequent. Aug.-Sept.

353. S. cicutæfolium, Gm. var. (*S. lineare*, Mx. var. *intermedium*, Torr. and Gray.)
Along the flood-plain of Neguæna Cr., in ditches ; a form with rather broadly ovate leaflets.

149. PIMPINELLA, Linn.

354. P. integerrima, Benth. and Hook. (*Zizia integerrima*, DC. Gray's Man.) (H. and C.)
Sides of ravines, thickets ; common. May 20-June.

150. CRYPTOTÆNIA, DC.

355. C. Canadensis, DC. HONEWORT. (H. and C.)
Moist woods ; frequent. June-July.
Casc. Woods and elsewhere.

151. OSMORRHIZA, Raf.

356. * O. longistylis, DC. SMOOTH SWEET-CICELY. (H. and C.)
Ravines and thickets ; not common. May 20–June.
Negundo Woods. Renwick-Farm slope and elsewhere.

357. O. brevistylis, DC. HAIRY SWEET-CICELY. (H. and C.)
Rich woods and ravines ; common. May 20–June.

152. CHÆROPHYLLUM, Linn.

358. C. procumbens, Lam. WILD CHEVRIL.
Rich woods ; rare. May.
Negundo Woods, 1874. (*Theo. L. Mead.*) ! By Creek near Esty's Tannery. By R. R. near Esty's T.

153. THASPIUM, Nutt.

359. **T. aureum**, Nutt. (H. and C.)
Type form rare. Near cult. field north of Forest-Home. May 20–June.

360. **T. aureum**, Nutt. var. **apterum**, Gray. (H.)
Open meadows and thickets ; frequent.
Near Negundo Woods. Green-Tree Falls. Meadows E. of Etna. E. of Levanna. Venice.

361. **T. trifoliatum**, Gray, var. **apterum**, Gr. (H. and C.)
Dry woods and open thickets ; common. May 20–June.
The form with winged fruit has not been found.

154. SELINUM, Linn.

362. **S. Canadense**, Michx. (*Conioselinum canadense*, T. and Gr.) HEMLOCK-PARSLEY. (C. by Dr. Wright.)
Not rare ; on dripping shaded cliffs in all larger glens. Aug.–Sept.
Also in cold swamps and marshes, as Fir-tree Swamp, Freeville ; and along Mud Cr. Beaver Cr. and Round Marsh. Michigan Hollow. The swamp habitat is the usual one given in manuals and catalogues, but Macoun mentions it as on the sea-cliffs of Gaspé. (*Cat. of Canad. Pl.*)

155. LEVISTICUM, Koch.

363. L. OFFICINALE, Koch. LOVAGE.
Roadsides ; not common. Aug.
Near McKinney's. Beyond Geer's Gulf, Enfield. Kings Ferry. Newfield, toward Saxon Hill.

156. ARCHANGELICA, Hoffm.

364. **A. hirsuta**, Torr. and Gray. (H. and C.)
Dry woods, especially on the hills ; frequent but scattered. Aug.
Casc. Woods and near all the ravines. Dart Woods. Turkey Hill. Pinnacles in Caroline and Danby. Newfield Hills.

365. **A. atropurpurea**,, Hoffm. GREAT ANGELICA. (C.)
Marshes and lake-shore ; frequent. June 15–July.
Indian Spr. Marsh. South of Ithaca. Mud Cr. Beaver Cr. Cayuga Lake shore, often in sand.

157. PEUCEDANUM, Linn.

366. P. SATIVUM, Benth. and Hook. (*Pastinaca sativa L.* WILD PARSNIP. (C.)
Waste places and along streams ; common. June–Sept.

158. HERACLEUM, Linn.

367. **H. lanatum**, Michx. COW-PARSNIP. (H. and C.)
Alluvial soil ; not common. June, July.
Indian Spr. Marsh. South of Ithaca, not uncommon up the Neguæna valley to Newfield. Occasional along the lake shore.

159. DAUCUS, Tourn,

368. D. CAROTA, L. WILD CARROT. (C.)
Dry fields, and creek beds ; becoming common. June–Sept.

Heustis St. Six Mile Creek valley, very common. Turkey Hill, Lansing, and common on sandy shores of the lake.

## ARALIACEÆ.

### 160. ARALIA.

A. SPINOSA, L. HERCULES CLUB. Occasionally spreads from the roots, beyond yards where it is cultivated; as near Judd's Falls. Aug.

369. * A. racemosa, L. SPIKENARD. WHITE-ROOT. (H. and C.)
In ravines and shaded hollows; frequent. Aug.

370. A. hispida, Michx. BRISTLY SARSAPARILLA.
(C. by Dr. Wright.)
Dry banks; infrequent. June 20–July 20.
Six Mile Cr. south of Green Tree Falls. W. Dryden. Malloryville. South of Woodwardia Sw. North of Summit Marsh. Near Montezuma Marshes, (*Dr. S. H. Wright.*)

371. A. nudicaulis, L. WILD SARSAPARILLA. (H. and C.)
Wooded banks; common. May.
Specimens from South Hill, 1883, (*F. T. Wilson,*) show many adventive, pedicelled flowers at the forks of the corymb, amounting in one case to a full sessile umbel.

372. * A. quinquefolia, Gray. GINSENG. (H. and C.)
Rich woods, scattered; but a few plants exist in almost every extensive woods, or ravine. June 20–July.
Fall Cr., below the "Primrose Cliffs." Six Mile Cr. Ravines of the lake-shore, and rich woods in Danby, Caroline and Newfield, and about Freeville and McLean.

373. * A. trifolia, Gray. DWARF-GINSENG. (H. and C.)
Rich woods and thickets; frequent. May.

## CORNACEÆ.

### 161. CORNUS, Tourn.

374. C. Canadensis, L. BUNCH-BERRY. (H. and C.)
Cold woods and borders of sphagnum swamps; common. June–July.
Fall Cr., north of the Physical Laboratory, a few. West of Varna. Common in Dart Woods, Ellis Hollow, and the Freeville and Danby swamps. A specimen from Freeville, 1880, shows a partially compound umbel, groups of flowers being on short peduncles and surrounded by partial involucres.

375. * C. florida, L. FLOWERING-DOGWOOD. (H. and C.)
Woods; frequent. May.

376. C. circinata, L'Her. ROUND-LEAVED D. (H. and C.)
Ravines and high hills; frequent. June 15–30.

377. C. sericea, L. SILKY D. (H. and C.)
Low grounds; common. June 12–30.

378. C. stolonifera, Michx. RED OSIER. (H. and C.)
Low grounds; common. May 25–June 20.

This species and the preceding occasionally bloom a second time, in Aug. or Sept.

379. **C. paniculata**, L'Her. (H. and C.)
Hillsides and near marshes ; abundant. June 25–July.

380. **C. alternifolia**, L. (H. and C.)
Ravines and woods ; common. June.

### 162. NYSSA, L.

381. **N. multiflora**, Wang. PEPPERIDGE. (H. and C.)
Woods and borders of the great marshes ; scarce. June.
Small trees near Fall Cr., north of Beebe Pond. Six Mile Cr., north of Well Falls. South Hill toward Caroline. A few large trees south of Coy Glen, and the Hardenburg Gulf ; also on west shore of Cayuga Lake ; the east shore in Lansing, and on the west side of Cayuga and Montezuma Marshes.

## CAPRIFOLIACEÆ.

### 163. SAMBUCUS, Tourn.

382. **S. racemosa**, L. (*S. pubens*, Mx.) RED-BERRIED ELDER. (H. and C.)
Ravines and gravelly banks in the hill-towns ; frequent. May.

383. * **S. Canadensis**, L. COMMON ELDER. (H. and C.)
Fields and hedges ; frequent. July 1–20.

### 164. VIBURNUM, Linn.

384. **V. lantanoides**, Michx. HOBBLE-BUSH. (C. by Dr. Wright.)
Cold woods and swamps, where it is common. May 10–30.
Fall Creek, west of the Cold-spring, and of the Primrose cliffs. Six Mile Creek, and other ravines. Very abundant in the remote swamps.

385. * **V. Opulus**, L. CRANBERRY-TREE. (H. and C.)
Indigenous in deep swamps ; scarce. June.
Indian Spring Marsh. Round Marshes. Fir-tree Swamp at Freeville. Michigan Hollow. Cayuta Lake Swamp. Probably introduced near the Valentine Brook, north of Pleasant Grove Brook, and on Lockwood's Flats.

386. **V. acerifolium**, L, MAPLE-LEAVED ARROW-WOOD. (H. and C.)
Dry woods, chiefly ; common. June.

387. **V. pubescens**, Pursh. DOWNY ARROW-WOOD. (C.)
Rocky banks ; frequent. June 5–15.
South of Morrill Hall. Fall Cr., and all ravines. Especially abundant on the lake shore north of King's Ferry.

388. **V. dentatum**, L. ARROW-WOOD.
Low grounds ; common. June.

389. **V. cassinoides**, L. (*V. nudum*, *L. var. cassinoides.* Gray's Man., p. 206.) WITHE-ROD. (C. by Dr. Wright.)
Sphagnum swamps, where it is frequent. June.
Larch Meadow. South Hill Marsh. Locke Pond, and all the marshes of Dryden and Groton and Danby.

390. V. Lentago, L. SWEET VIBURNUM. (H. and C.)
Ravines and low grounds; frequent. May 15–30.

165. TRIOSTEUM, Linn.

391. *T. perfoliatum, L. FEVER-WORT. (H. and C.)
Rocky open pastures and hedges; frequent. June.
North of Fall Cr. South of Six Mile Creek mill-pond, and elsewhere.

166. LINNÆA, Gronov.

392. L. borealis, Gronov. TWIN-FLOWER. LINNÆA. (C.)
Banks, and borders of marshes under Pines or Hemlocks. June.
Sparingly in Cascadilla Woods; north of Forest Home; near Buttermilk Falls; Ludlowville, (*Mr. Lord*); south banks of Taughannock, and Trumansburg ravines; near summit of Saxon Hill; Fir-tree swamp, S. E. of Danby; island in Summit Marsh, and E. of Freeville sphagnum bog. Ledyard (*Herb. J. J. Thomas.*)

167. SYMPHORICARPUS, Dill.

393. S. racemosus, Michx. SNOW-BERRY. (C.)
Ravines, rocky places and roadsides; infrequent. July.
Six Mile Cr. Enfield ravine. Cayuga Lake shore, etc., possibly adventive.

394. S. racemosus, Mx., var. pauciflorus, Robbins.
Rocky banks of large ravines and Cayuga L., where it is abundant. June 20–July 20.
Clearly an indigenous form. Fall Cr., below Ithaca Fall. Taughannock ravine. Cayuga L., rather common, especially on the east-shore cliffs from Mc'Kinney's to Levanna.

[S. VULGARIS, Michx. INDIAN CURRANT. Borders of Seneca Lake, (*Sartwell in Herb.*), "probably introduced,"—(*S. H. Wright.*)

168. LONICERA, Linn.

395. L. XYLOSTEUM, L. FLY-HONEYSUCKLE (OF EUROPE.)
South Hill by the R. R., near North Quarry, 1880, (*F. C. Curtice*)! Also south of the Quarry, a quarter of a mile from the first station, 1884.

396. L. oblongifolia, Muhl. SWAMP FLY-HONEYSUCKLE. (H. and C.)
Deep swamps; rare. June 1–20.
Sparingly in Michigan Hollow swamp, near the *Rhododendron;* Sw. at the head of Locke Pond. (*Dr. Ch. Atwood.*) (Otter Cr., Cortland.) Lowery's pond, Junius. (Tamarack Sw., west of Savannah.)

397. *L. ciliata, Muhl. FLY-HONEYSUCKLE. (H. and C.)
Ravines and damp woods; common. May.

398. L. TARTARICA, L. TARTARIAN HONEYSUCKLE.
Pastures and banks; becoming frequent. May 25–June 15.
South Hill, near the "Incline" and R. R.; very abund. Also in Casc. Cr., Fall Cr., and frequent on shore of Cayuga L. On Frontenac Island are specimens with white flowers and salmon-colored berries.

399. L. SEMPERVIRENS, L.

South Hill, beyond the "Incline," (1883-85), borders of a thicket in a rocky pasture; probably introduced. July, Aug.

400. L. **hirsuta**, Eaton. HAIRY HONEYSUCKLE. (**H.** and **C.**)

Moist copses; rare. June.

Freeville, west of the Southern Cent. R. R. North of Summit M. (Woods south of Spencer Sta., Tioga Co.) Our forms are all less hairy than the more northern ones.

401. **L. glauca**, Hill. (*L. parviflora*, Lam., Man., p. 204.) SMALL HONEYSUCKLE. (**H.** and **C.**)

Rocky banks and slops; frequent. May 10–June 10.

A form occurs sparingly on the High Cliffs north of King's Ferry bearing pure yellow flowers, but otherwise like the type.

402. A form of (401)—possibly a *variety*—occurs in the old woods on our higher and more remote hills, having leaves mostly distinct excepting the upper pair, green and smooth above, underneath less glaucous than in the type, and more or less hairy. The ovaries and peduncles are somewhat glandular when young, when mature only slightly hairy, and in color orange-red. Flowers not yet seen. Possibly this formed a part of the old var. *Douglassii* of *L. parviflora*.

169. DIERVILLA, Tourn.

403. **D. trifida**, Mœnch. BUSH HONEYSUCKLE.

Dry woods, and rocky banks of ravines; frequent. June.

## RUBIACEÆ.

170. HOUSTONIA, Linn.

404. **H. cærulea**, L. BLUETS. INNOCENCE. WILD-FORGET-ME-NOT. (**H.** and **C.**)

Damp meadows and pastures; local. May–Oct.

South Hill, extending ½ to 1 mile in every direction from South Hill Marsh.

H. PURPUREA, L., var. LONGIFOLIA, Gray, appeared on the Fiske-McGraw grounds, 1884. (**C.** by Dr. Wright.)

171. CEPHALANTHUS, Linn.

405. * **C. occidentalis**, L. (**H.** and **C.**)

Swamps; frequent, Indian Spring Marsh, etc. Aug.

172. MITCHELLA, Linn.

406. * **M. repens**, L. PARTRIDGE-BERRY. SQUAW-PLUM. ONE-BERRY. (**H.** and **C.**)

Woods; common. June 25–July 25.

Form with leafy berries, Casc. Cr. (*Mr. Lord*, 1880.) 1881! near Brookton, 1881. (for figures of these specimens, see *Bulletin Torr. Botan. Club*, Vol. X, pl. XXVI, Jan. 1883.) Form with white berries, Round Marsh woods, 1883, (*O. E. Pearce.*)

173. GALIUM, Linn.

407. **G. Aparine**, L. CLEAVERS. (**C.**)

Ravines and damp thickets; abundant. May.

408. G. pilosum, Ait.
Dry banks; rare. July.
Wild bank in the rear of the Valley Cemetery. Junius, near ponds, and S. W.; also in *Sartwell Herb.* from "Junius."

409. G. circæzans, Michx. (H. and C.)
Woods; frequent. July.

410. G. lanceolatum, Torr. (H. and C.)
Woods and ravines; frequent. June–July.

411. G. boreale, L. NORTHERN BEDSTRAW. (H. and C.)
Rocky banks and slopes; common. June–July.
Particularly abundant, South Hill and the lake shore.

412. G. trifidum, L. SMALL B. (H. and C.)
Wet places and marshes. Near Cayuga L., etc.; common. June–July.

413. G. trifidum, L. var. pusillum, Gray. (H.)
Sphagnum marshes and on Ithaca marsh; frequent.

414. G. trifidum, L. var. latifolium, Torr. (H.)
Marsh near the lake; near Kings Ferry; scarce.

415. G. asprellum, Michx. ROUGHER B. (H. and C.)
Swamps; common. July–Oct.

416. G. triflorum, Michx. SWEET B. (H. and C.)
Woods; frequent. July.

## VALERIANACEÆ.

### 174. VALERIANA, Tourn.

417. V. OFFICINALIS, L. GARDEN VALERIAN.
Escaped, near Locke Pond; and north of Taughannock ravine in woods where it has bloomed many years. June.

418. V. sylvatica, Banks. Sphagnum sw., June; in *Herb. of J. J. Thomas*, from Junius; probably 1827. The usual statement is that this rare plant was first detected in New York, in Savannah, Wayne Co., by Dr. Sartwell, 1833. (See *Gray in New and Rare Pl. of N. Y.*, p. 226.) The only other N. Y. stations as yet reported are: north of Newark, Wayne Co., (*Mr. Hankenson*); W. Bergen Sw.; Warren, Herkimer Co.; and Pine Plains, Dutchess Co.

### 175. VALERIANELLA, Tourn.

419. V. OLITORIA, Poll. (*Fedia olitoria*, Vahl.) CORN SALAD.
On Frontenac Id. Cayuga L. (*Mrs. Prof. S. J. Brun, in* 1882)! Rare. May.

[V. chenopodifolia, DC. (*Fedia Fagopyrum*, T. and Gr.) is in *Herb. Sartwell*, from Penn Yan.]

## DIPSACEÆ.

### 176. DIPSACUS, Tourn.

420. * D. SYLVESTRIS, Mill. TEASEL.
Roadsides and fields; common. July–Oct.

### 177. SCABIOSA, Linn.

421. S. AUSTRALIS, Wulf. SCABIOUS.
Wet, often marshy places; introduced and local. Aug–Oct.

Near Cayuga Lake from Union Springs south to Farley's Point and Lockwood's Flats. Marsh north of village; and on Frontenac Id.; abundant within the limits. *Scabiosa* differs from *Dipcacus*, chiefly in the scales of the receptacle, which are either not prickly or reduced to hairs.

S. AUSTRALIS, Wulf., is a perennial herb, ½–¾ meter in height, with few opposite branches forming a corymb. Radical leaves spatulate; cauline opposite, lower oblanceolate and tapering into a petiole, upper linear-lanceolate and sessile, entire, obtuse or acute, glabrous or slightly hairy on the veins; light green. Heads on long peduncles globular or oblong (1½ cm.), flowers small, cerulean blue. Involucel, glabrous, 4-lobed; *lobes short, obtuse*; *calyx-lobes not extending into bristles*. Detected Aug. 1881. The history of its introduction (in this the only station in America so far as I know), is clearer than in most such cases; for in the Herb. of Prof'r J. J. Thomas are specimens taken from his father's garden, where it was cultivated fifty years ago. The garden was back from the lake only a mile or two.

## COMPOSITÆ.

### 178. MIKANIA, Willd.

422. **M. scandens**, Willd.

In thickets, and on wild grasses; only along the Cayuga Marshes, where it is frequent. Aug.

### 179. EUPATORIUM, Tourn.

423. * **E. purpureum**, L. TRUMPET-WEED. PURPLE THOROUGHWORT. (H. and C.)

Low grounds; one of the commonest weeds. Aug.–Sept.

424. **E. sessilifolium**, L. (C.)

Declivities of ravines and lake shores; scarce. Aug.–Sept.

Fall Cr. below Ithaca Fall. Near the "Nook." Cayuga L. South of Shurgur's Glen, and north of Myers Pt. Enfield ravine.

425. * **E. perfoliatum**, L. BONESET. THOROUGHWORT. (H. and C.)

Low grounds; common. Aug.–Sept.

426. * **E. ageratoides**, L. f. WHITE SNAKE-ROOT. (H. and C.)

Ravines and woods in shade; abundant. Aug.–Sept.

[Liatris scariosa is in *Sartwell's Cat.*, 1844.]

### 180. SOLIDAGO, Linn. GOLDEN ROD.

427. **S. squarrosa**, Muhl. (H. and C.)

Dry woods and banks; frequent. Sept.

All our ravines, and especially abundant on banks of Cayuga L.

428. **S. cæsia**, L. (H. and C.)

Woods; common, (the *var. axillaris*, Gray, frequent.) Sept.

429. **S. latifolia**, L. (H. and C.)

Sides of ravines, shaded wet places; not uncommon. Sept.

430. **S. bicolor**, L. (H. and C.)

Fields and woods; common. Sept.

[? S. odora, Ait.; "rocky banks of Seneca L. *Vasey.*" See Paine's C. p. 94.]

431. S. uliginosa, Nutt. (*S. stricta* of Gray's Man., p. 240.)
Sphagnum swamps ; where it is frequent. Sept.
The strict form occurring at Larch Meadow and the Round Marshes. A more thyrsoid form in Round Marshes and along Mud Cr. Some of the latter can scarcely be distinguished from *S. neglecta* except the racemes are not secund.

432. S. patula, Muhl. (C.)
Wet places and marshes ; common. Sept.

433. S. rugosa, Mill. (*S. altissima*, L. of Gray's Man., p. 243.) (H. and C.)
Borders of woods and thickets ; frequent. Aug.–Sept.
Cascadilla Woods near the Armory. South Hill. Freeville and elsewhere.

434. S. ulmifolia, Muhl. (H.)
Ravines and declivities ; scarce. Sept.
Fall Cr. Near sand-bank north of Fall Cr. Mills. Somewhat abund. north of Myers Point. South of Willet's Sta. Big Gully.

435. S. neglecta, Torr. and Gray. H. and C.)
Sphagnum swamps ; scarce. Sept.
Larch Meadow. Round Marshes.

436. S. neglecta, T. and Gr. var. linoides, Gray. (*S. linoides*, Sol. Man., p. 243.)
Newton's Ponds. Lowery's Ponds, Junius. (Same station by *Sartwell, H. and C.*)

437. S. arguta, Ait. (The *Solidago Muhlenbergii*, T. and Gr. of Man., p. 243.) (H. and C.)
Sides of ravines and along the lake ; frequent. Aug.–Sept.
In sphagnum swamps it becomes variable, its leaves often roughish above.

438. S. juncea, Ait. (The *S. arguta* of Gray's Man., p. 243.) (H. and C.)
Banks, borders of woods ; common. July 20–Aug.
The handsomest and one of the earliest Golden-rods. The narrow leaved form along the lake blooms earliest. Occasionally it grows and blooms in the crevices of the Tully limestone, at the height of 8–12 cm.

439. S. serotina, Ait. (*Solidago gigantea*, Ait, of Man., p. 245.) (H. and C.)
Borders of woods ; common. An early bloomer. July 15–Aug.

440. S. serotina, Ait., var. gigantea, Gray, (the *S. serotina* of Man., p. 245.) (H. and C.)
Often on marshes, also damp fields ; frequent. Aug.
South Hill. Inlet Marsh. Summit Marsh. Near Black Lake. Dryden L. valley and elsewhere.

441. S. Canadensis, L. (H. and C.)
Fields and thickets, etc.; very common and late blooming. Sept.–Oct.
Below Sheldrake are specimens with smooth leaves.

442. **S. nemoralis**, Ait. (H. and C.)
Fields; common. Sept.

443. **S. Ohioensis**, Riddell.
Sphagnum marsh, about Newton's and Lowery's Ponds, Junius. Aug. 20–Sept. 20.
"Junius," (*Sartwell, H. and C.*) Somewhat abund. at this station. Probably West Bergen Sw. is the only other station in the State.

444. **S. lanceolata**, L. (C. by Dr. Wright.)
Low places in fields; scarce. Aug.–Sept.
South Hill south of S. S. 420. White Church. Near Summit Marsh. Dryden Lake. Mud Cr. Locke Pond. Groton. (*F. C. C. and F. L. K.*) Not yet found on the western hills of our Flora.

BELLIS, Tourn.

B. PERENNIS, L. ENGLISH DAISY. Spontaneous on Mr. Lord's lawn several years.

181. SERICOCARPUS, Nees.

445. **S. conyzoides**, Nees. WHITE-TOPPED-ASTER. (H. and C.)
Dry woods near ravines, etc.; not uncommon. Aug.

182. ASTER, Linn. ASTER.

446. **A. corymbosus**, Ait. (H. and C.)
Hedges and thickets; frequent. July–Aug.

447. **A. macrophyllus**. (H. and C.)
Along brooks and in rich woods; abundant. Aug.–Sept.

448. **A. Novæ Angliæ**, L. NEW ENGLAND ASTER. (H and C.)
Hillsides and along streams; a very abundant, late bloomer. Sept. 12–Oct.

449. **A. Novæ Angliæ**, L. var. **roseus**, Gr.
Abund. on South Hill. Near Casc. Cr. and Union Springs; a form with light pink flowers at Union Springs.

450. *var.* with light blue flowers at Union Springs. South of Levanna. Near Osmun's Sta.

451. **A. undulatus**, L. (H. and C.)
Woods; common. Sept.–Oct.

452. **A. cordifolius**, L. (H. and C.)
Woods; common. Sept.–Oct.

453. **A. sagittifolius**, Willd. (H. and C.)
Banks of Cayuga L. Sept.–Nov.
This species is abundant from Esty Glen to Union Springs, entirely replacing in some sections, *A. cordifolius*. Very rarely found away from the shore.

454. **A. lævis**, L. (C.)
Woods and especially abund. on lake shore; common. Sept.–Nov.
Sometimes with very glaucous leaves, (the typical form); sometimes leaves bright green.

455. A. ERICOIDES. L.
Dry soil; local, probably introduced here. Sept.–Oct.

By R. R. east of Freeville. By R. R. south of W. Danby.

456. A. vimineus, Lam. (*A. Tradescanti* of Man., p. 232, for most part.)
Low grounds and woods as Casc. Cr. Fall Cr. and Freeville; frequent. Aug.–Sept.

457. A. diffusus, Ait. (*A. miser*, L. of Man., for most part.) (H. and C.)
Woods. South Hill. Freeville; type not very common. Aug.–Sept.

458. A. diffusus, Ait. var. thyrsoideus, Gray; occurs near shore of Cayuga L. South of Lake Ridge and in woods on Utts Point.

459. A. diffusus, Ait. var. hirsuticaulis, Gray; (believed by Dr. Gray to be nearest this,) occurs in Fall Creek and Freeville, while a more pronounced form grows at Mud Cr.

460. A. Tradescanti, L. (*A tenuifolius*, of Man., p. 233 in part.)
Cayuga L. shore; not common. Sept.–Oct.
Farley's Point. Near U. Springs depot. Lake Ridge Pt.

461. A. paniculatus, Lam. (*A. carneus*, Nees and *A. simplex*, Willd, of Man., p. 233, mainly.) (H. and C.)
Low grounds; very common. Sept.–Oct.
The forms with large whitish or bluish-white heads, dark-green thin, serrate leaves and widely branching stems seem to be the typical ones. It is excessively variable but one of the commonest species in this region.

462. A. junceus, Ait. (*A. æstivus* of Man., p. 233 mainly.)
Sphagnum swamps; infrequent. July 20–Sept. 15.
A handsome *Aster*, in the Round Marshes and open bogs in Gracie's Sw. Near "Marl-Ponds." Fleming Meadow, and Cayuta Lake.

463. A. Novi-Belgii, L. ?
Fleming Meadow.

464. A. prenanthoides, Muhl. (H. and C.)
Wet places and swamps; common. Sept.–Oct.

465. A. puniceus, L. (H. and C.)
Marshes and along streams; common. Sept.–Oct.
Form with white flowers, near Forest-Home, (*Dr. Jordan.*)

466. A. puniceus, L. var. lævicaulis, Gray.
A well-marked form near R. R. north of Ludlowville, and near canal E. of Montezuma.

467. A. puniceus, L. *var.* with purple stems, nearly smooth, and flowers pinkish.
Near Union Springs, Round Marsh, Freeville and Mud Creek.

468. A. umbellatus, Mill. (*Diplopappus umbellatus*, Torr. and Gr.) (H. and C.)
Ravines and near sphagnum swamps; abund. Aug.–Sept.

469. **A. acuminatus**, Michx. (H. and C.)
Cold elevated woods and ravines usually. Aug.–Sept.
Six Mile Cr., and woods and ravines in Newfield, Danby, Caroline and Dryden ; only common in tracts recently cleared.

182[a]. ERIGERON, Linn.

470. **E. bellidifolius**, Muhl. ROBINS-PLANTAIN. (H. and C.)
Grassy banks ; frequent. May 15–June 2.

471. **E. Philadelphicus**, L. PINK FLEABANE. (H. and C.)
Grassy banks ; often on wet rocks of ravines ; frequent. June.

472. **E. annuus**, Pers. TALL-DAISY. (H. and C.)
Fields ; common. July–Nov.

473. **E. strigosus**, Muhl. DAISY FLEABANE. (H. and C).
Field ; common. July–Nov.
Near Union Springs, Round-Marsh, Freeville and Mud Creek.

474. **E. Canadensis**, L. HORSEWEED. (H. and C.)
Fields and waste places ; common. Aug.–Nov.

183. ANTENNARIA, Gærtn.

475. **A. plantaginifolia**, Hook. PLANTAIN-LEAVED EVERLASTING. (H. and C.)
Dry banks, and wet sandy fields ; common. April–May.

184. ANAPHALIS, DC.

476. **A. margaritacea**, Benth. and Hook. (*Antennaria margaritacea*, R. Br.) PEARLY EVERLASTING. (H and C.)
Near ravines, and fields on high hills where it is common. Aug.–Sept.

185. GNAPHALIUM, Linn.

477. **G. polycephalum**, Michx. (H. and C.)
Dry woods ; not common. Sept.
Casc. Woods. Fall Cr. Near Ludlowville. W. Danby, on the pinnacles. Enfield ravine.

478. **G. decurrens**, Ives. COMMON EVERLASTING. (H. and C.)
Woods and old fields ; frequent. Aug.–Sept.

479. ***G. uliginosum**, L. CUDWEED. (H. and C.)
Wet places and shores ; common. July–Oct.
Specimens from Cortland Marl-Ponds, less than 1 cm. tall, but fruiting.

[**Gnaphalium purpurem**, L., in Sartwell's Herb. and Cat., from Penn Yan.]

186. INULA, Linn.

480. *I. HELENIUM, L. ELECAMPANE. (H. and C.)
Pastures and along streams ; frequent. July–Aug.

187. POLYMNIA, Linn.

481. **P. Canadensis**, L. LEAF-CUP. (H. and C.)
Rich or rocky soil ; infrequent. Aug.
Negundo Woods. Ravine of Ferris Brook. North Pinnacle in Caroline. Cedar swamp in Tyre.

482. P. Uvedalia, L. (H. and C.)
Ravines; rare. Aug.
Salmon Cr. ravine, below the spring. Big Gully, above the Falls. (E. of Bellona, *S. H. Wright.*)

188. AMBROSIA, Tourn.

483. A. trifida, L. GREAT RAG-WEED. (H. and C.)
Near streams, in rich soil; common. July, Aug.

484. A. artemisæfolia, L. RAGWEED. (H. and C.)
Fields; very common. July–Oct.

189. XANTHIUM, Tourn.

485. X. Canadense, Mill. COCKLE-BUR. (H. and C.)
Streams and shores; common. Aug.–Oct.

486. X. Canadense, Mill, var. echinatum, Gray.
Same range; common.

ZINNIA ELEGANS, L., occasionally escapes; as on banks of Fall Cr., 1882; and roadside on the marsh.

190. HELIOPSIS, Pers.

487. H. lævis, Pers. OX-EYE. (H. and C.)
Alluvial soil, where it is very abundant. July 1-Oct.
Very abundant along the lake, its marshes, and the Neguæna valley; also Fall Cr. at Freeville. Six Mile Cr. and elsewhere.

191. RUDBECKIA, Linn.

488. R. hirta, L. YELLOW DAISY. OX-EYE DAISY. CONE-FLOWER. (C. by Dr. Wright.)
Fields; frequent and becoming a weed. July-Aug.

489. R. laciniata, L. CONE-FLOWER. (H. and C.)
Creeks, marshes and swamps; frequent. Aug. 1-Sept. 30.

192. HELIANTHUS, Linn.

H. ANNUUS, L., the great "SUNFLOWER" occasionally appears in waste places, but is not permanent.

490. H. divaricatus, L. (H. and C.)
Dry banks and woods; common; rarely with three leaves in a whorl. Aug.-Sept.

[H. divaricatus, "var. foliis-ternatis, Torr. and Gray," at Penn Yan, (*in Herb. Sartwell.*)]

491. H. strumosus, L. (H. and C.)
Woods, or shaded rich soil; abundant. Aug.–Sept. 20.
A stout, broad and hairy leaved form, south of Ithaca and near Cayuga Bridge. A form with narrowly lanceolate leaves, near King's Ferry and Lockwood's Flats; the same in Herb. of J. J. Thomas, as *H. tracheliifolius.*

492. H. decapetalus, L. (H. and C.)
Dry woods or ravines; frequent. Aug. 15–Sept.

493. H. tuberosus, L. JERUSALEM-ARTICHOKE. (H. and C.)
Alluvial ground or shores; not uncommon. Sept.

Fall Creek above. Beebe Pond, (apparently indigenous), and Six Mile Cr. The escaped hairy form, near Ithaca and Cayuga L. shore, on Lockwood's Flats and elsewhere.

[H. giganteus, L. at "P. Yan," *Sartwell in H.*]

[Actinomeris squarrosa, Nutt. Borders of Crooked Lake, Yates Co. *Sartwell in Herb.*, also in *Torrey's Flora of N. Y.*, I, p. 384.]

193. COREOPSIS, Linn.

494. C. trichosperma, Michx.
Rare. Specimen in herb., from head of Cayuga Lake, Oct., 1879, (*F. C. Curtice.*)

495. C. discoidea, Torr. and Gray.
Exsiccated places; scarce. Sept.–Oct.
On old logs, shores of Dryden L. Near Cayuga L., on the Marsh. (Hybrids between this and *Bidens frondosa*, L., have been collected at Cascade, Owasco L.)

194. BIDENS, Tourn.

496. B. frondosa, L. COMMON BEGGAR-TICKS. (H. and C.)
Low grounds and waste places; common. Aug.–Oct.

497. B. connata, Muhl. (H. and C.)
Along creeks, rich soil; abundant. Aug.-Sept.

498. B. connata, Muhl., var. comosa, Gray.
Common along Salmon Cr. and Myers Pt.; also, Sheldrake Pt.

499. B. cernua, L.
Wet places, shores and bottom of ravines; frequent. Sept., Oct.
At Marl Ponds, Cortland, it fruits at heighth of 7–12 cm. Junius, (*Sartwell in H. and C.*)

500. B. chrysanthemoides, Michx. (H. and C.)
Marshes and ditches; common. Aug.–Oct.

501. B. bipinnata, L. SPANISH NEEDLES.
Rare as yet. Lake Ridge Pt., 1880. "Ovid," (*S. H. W.*) Aug.–Oct.

502. B. Beckii, Torr. WATER MARIGOLD.
Still, shallow ponds; rare. Aug.
Locke Pond, 1881. (Pond at Homer, *Mr. Lord.* Mill-pond at Cortland. *Dr. Ch. Atwood.*) Cayuta L. in N. W. part.

195. HELENIUM, Linn.

503. H. autumnale, L. SNEEZE-WEED. (H. and C.)
Alluvial soil; frequent. Aug. 20–Oct.
Fall Cr., and elsewhere; particularly abundant on Cayuga Marshes.

196. ANTHEMIS, Linn.

504. A. COTULA, L. (*Maruta Cotula*, L.) MAY-WEED. (H. and C.)
A common weed. Aug.–November.

505. A. ARVENSIS, L. CORN-CHAMOMILE. (H. and C.)
Fields; becoming abund. near Ithaca and the lake. Beginning to flower in June.

197. ACHILLÆA, Vaill.

506. *A. millefolium, L. YARROW. (H. and C.)
Fields; common, the pink flowered form at Ball Hill. July-Nov.

198. CHRYSANTHEMUM, Tourn. *Leucanthemum*, Tourn.

507. C. LEUCANTHEMUM, L. DAISY. (H. and C.)
Fields; common. June-Nov.

508. C. PARTHENIUM, Pers. FEVERFEW.
Thoroughly established throughout Stevens Woods on west shore of Cayuga. Occasional near Inlet and in Ithaca.

199. TANACETUM, Tourn.

509. T. VULGARE, L. TANSY. (H. and C.)
Roadsides, (the form "*var. crispum*" is also frequent.) July-Sept.

200. ARTEMISIA, Tourn.

510. *A. ABSINTHIUM, L. COMMON WORMWOOD. (H. and C.)
By roadsides north of Willets Sta. formerly, (1879.) Aug.

511. *A. ABROTANUM, L. SOUTHERN-WOOD.
In W. Junius, by road S. W. of the Pout Pond.

201. TUSSILAGO, Tourn.

512. T. FARFARA, L. COLTS-FOOT. (H. and C.)
Damp, clay soil, and banks of streams; common. April.

202. PETASITES, Tourn.

513. P. palmata, Gray. (*Nardosmia palmata*, Hook.) SWEET COLTS-FOOT.
Near Buttermilk Cr., in a marsh south of "Pulpit Rock", (*G. W. Wood,*)! 1873. It continued till 1876, when it was destroyed by felling the trees which shaded it. Found in 1875 in a swamp near Smith's Corners, north of Cayuta L. This station was also destroyed a few years ago in the same way. ("Dundee, Yates Co." *S. H. Wright, in Herb. Sartwell.* Station is 2 m. E. of Dundee.)

203. SENECIO.

514. *S. aureus, L. GOLDEN RAG-WORT. (H. and C.)
Wet swamps; frequent. May 15-June.

515. S. VULGARIS, L. GROUNDSEL. (H. and C.)
Scarce. "Below Casc. Place, by *Farquahr.*, 1869." (*Dr. Jordan.*) On the Campus, 1881, (*F. L. K.*) It occurs near Edgewood, near the Armory, and on the Fiske-McGraw grounds. Aurora, by the R R.

204. ERECHTHITES, Raf.

516. E. hieracifolia, Raf. FIRE-WEED. (H. and C.)
Woods, fields and recently cleared land; common. Aug.-Sept.

205. ARCTIUM, Linn.

517. *A. LAPPA L. (*Lappa officinalis*, All., Man., p. 275.) BURDOCK. (H. and C.)
A weed; common. Aug.-Nov.

518. A. LAPPA, L. var. MINUS, Gr., is abundant on the lake shore.

206. CNICUS, Tourn. (*Cirsium, DC. of Man.*)

519. C. ARVENSIS, Hoffm. CANADA THISTLE. (H. and C.)
Fields; excessively common. July-Oct.

520. C. ARVENSIS, Hoff. *var.* ALBIFLORUS, appears more and more abundantly each year.

521. *C. LANCEOLATUS, Hoffm. COMMON THISTLE. (H. and C.)
Fields; common. Aug.-Oct.

522. C. pumilus, Torr. PASTURE THISTLE. (H. and C.)
Pastures; scarce. Aug.-Sept.
North of Fall Cr. South Hill. E. of the South Pinnacle in Caroline.

523. C. altissimus, Willd., var. discolor, Gray. (*Cirsium discolor*, Spring.) (H. and C.)
Univ. Grove, formerly. Near Indian Spring Marsh. Negundo Woods. North of Levanna and Lockwood's Flats. On banks; scarce.

524. C. muticus, Pursh. SWAMP THISTLE. (H. and C.)
Swamps; frequent. Aug.-Oct.

[ONOPORDON ACANTHIUM, L. Near Penn Yan, by S. H. Wright.]

[SILYBUM MARIANUM, Gærtn. Also near Penn Yan, by Wright.]

207. ECHINOPS, Linn.

525. E. RITRO, L. GLOBE THISTLE.
Caroline Center, escaped from cult. and spreading rather freely, along a brook. (*F. T. Wilson*, 1885.)

208. CENTAUREA, Linn.

526. C. CYANUS, L. CORN-FLOWER, (C.)
Campus. E. State street, Ithaca, and elsewhere, appearing almost every year. In 1885, in a wheat field east of Casc. Woods, many specimens. (*F. T. Wilson.*)!

C. NIGRA, L. On the Campus near the McGraw building, 2875. (C. by Dr. Wright.)

209. CICHORIUM, Tourn.

527. C. INTYBUS, L. CHICCORY. (H. and C.)
Fields; not common. Aug.-Sept.
Has appeared on the Campus at intervals, but is established only in fields north of Dryden Lake; near Romulus Sta.; by road west of Enfield Falls, and on Crobar Point.

210. TRAGOPOGON, Linn.

528. T. PORRIFOLIUS, L. SALSIFY.
Fields; becoming frequent. July-Oct.
Campus, south of Sage Coll. Hazen St. Quarry St. South Hill. Enfield, and elsewhere.

529, T. PRATENSIS, L. YELLOW GOAT'S-BEARD.
South Hill. Near Levanna (1879.) Venice and Genoa, occasional. A weed in farms west of Locke Pond., (*Dr. C. Atwood.*)!

211. HIERACIUM, Tourn.

530. H. AURANTIACUM, L.
Recently introduced. In 1885, a few specimens were found south of Willow Pond race, (June 15); near Sw. on Owasco Hill in Venice; near Caroline Center, (*F. T. Wilson.*)

531. H. Canadense, Michx. CANADA HAWKWEED. (H. and C.)
In dry woods; not rare. Aug.–Sept.
Case. Woods. Fall Cr., near Cayuga L., and elsewhere.

532. H. paniculatum, L. (H. and C.)
In woods; frequent. Aug.-Sept.

533. H. venosum, L. RATTLESNAKE H. (H. and C.)
In dry woods; common. June-July.
Certain forms with leaves cauline and scarcely purple-veined, approach *H. Marianum*, Willd., but I do not think that species is here.

534. H. scabrum, Michx. ROUGH H. (H. and C.)
Dry woods, frequent. Aug.-Sept.

535. *H. Gronovii, L., is in Dr. Thompson's Cat., and is reported from near Auburn by I. H. Hall. (See *Paine's Cat.*, p. 99.) It is likely to occur in the sandy woods of Junius.

212. PRENANTHES, Vaill.

536. P. alba, L. (*Nabalus albus*, Hook). WHITE-LETTUCE. (H. and C.)
Woods; abundant. Aug.-Sept.
A form in Cascadilla Woods has stem leaves deeply 3–5 parted the lobes pinnatifid.

537. P. Serpentaria, Pursh. (*N. Fraseri*, DC.) LION'S-FOOT.
Dry woods; not uncommon. Aug.–Sept.
It occurs in the dry woods along all our ravines, and the pinnacles of Danby and Caroline.

538. P. altissima, L. (*N. altissimus*, Hook.) (H. and C.)
Moist shaded soil; frequent. Aug.

213. TARAXACUM, Haller.

539. *T. officinale, Web. (*T. Dens-leonis*, Desf.) DANDELION. (H. and C.)
Fields; very common. Blooming from May till Dec.

214. LACTUCA, Tourn.

540. L. SCARIOLA. L. PRICKLY-LETTUCE. (H. and C.)
Gravelly field on Trumansburg Point, Cayuga L. A few rods south of the landing, where it is abundant. Aug.

541. L. Canadensis, L. WILD LETTUCE. (H. and C.)
Rich soil and Cayuga L. shore; abundant. July–Sept.

542. L. integrifolia, Bigelow. (*L. Canadensis*, L. var. *integrifolia*, T. and Gr.) (C. by Dr. Wright.)
Drier soil; not common. Aug.
Brookton. Cayuga L. at Norton's. Union Springs and Cayuga Bridge.

543. L. leucophæa, Gray. (*Mulgedium leucophæum*, DC. Man., p. 282.) BLUE-LETTUCE. (H. and C.)
Low grounds; common. Aug.-Sept.

L. SATIVA, L. (the GARDEN LETTUCE) often appears for a season along roadsides near Ithaca.

215. SONCHUS, Tourn.

544. *S. OLERACEUS, L. SOW-THISTLE. (H. and C.)
Waste places and roadsides; abund. Aug.-Sept.

545. S. ASPER, Vill. SPRING SOW-THISTLE. (H. and C.)
Roadsides and especially frequent on Cayuga L. Aug.-Sept.

546. S. ARVENSIS, L. FIELD SOW-THISTLE.
Meadows and shores; frequent. July,-Sept.
The Mack Farm, south of Ithaca. Eddy St. Casc. St., Ithaca. Myers Pt. Sheldrake. Union Spr. and Cayuga. First reported from N. Y. by *Hon. H. B. Lord*, "shores *of Cayuga Lake*," in 4th Ed. Gray's Man., (1863). Also from the same station, with "*Rochester, G. W. C.*," and "*Staten Id. T. F. A.*," added, in 18th N. Y. Rep. p. 205, (1865.) Auburn, *I.H.Hall*, Paine's Cat. (1864). Though the flowers are handsome and fragrant, the strong perennial rootstock is a pest in cultivated soils.

## LOBELIACEÆ.

216. LOBELIA, Linn.

547. *L. cardinalis, L. CARDINAL-FLOWER. (H. and C.)
Low meadows and borders of ponds; frequent. July 20.-Sept.
Lake marshes near Inlet and Fall Cr. Casc. Cr. upper valley. White Church valley and elsewhere. Especially abundant about some of the Cortland Marl Ponds. Summit Marsh, and Cayuga Marshes.

548. *L. syphilitica, L. GREAT BLUE-LOBELIA. (H. and C.)
Wet places; abundant, Aug.-Sept.
A form with white flowers near Mud Cr., Freeville, (and near Penn Yan, *Sartwell Herb.*)

549. *L. Kalmii, L.
Wet rocks and cliffs, in ravines; where it is frequent. July.-Sept.
Fall Cr. and Casc. Cr. (*Dr. Jordan*)! Six Mile Cr. Buttermilk Cr. Enfield ravine. Taughannock ravine, Salmon Cr. ravine. A stout strict form, often with bractlets near the base of short pedicels, occurs on open marshes and limestone shores, as Larch Meadow, and Farley's Point. (see Paine's Cat. p. 100, for apparently same form.) "Junius" (*Sartwell H. and C.*)!

550. *L. inflata, L. INDIAN TOBACCO. (H. and C.)
Fields; common. July Sept.

## CAMPANULACEÆ.

217. SPECULARIA, Heister, (A. DC.)

551. S. perfoliata, A. DC. VENUS'S LOOKING-GLASS. (H. and C.)
Borders of dry fields and rocky banks; frequent. June.-July.

218. CAMPANULA, Tourn.

552. C. RAPUNCULOIDES, L.
Along creeks and gravelly roadsides ; frequent. June.-Aug.
Roadsides on E. Hill, and frequent. North of McLean, on Snyder Hill and in Six Mile Cr.

553. * C. rotundifolia, L. HAREBELL.
Cliffs ; frequent. ("Ithaca" in *Sartwell Herb.*) June-Oct.

554. C. aparinoides, Pursh. MARSH-BELLFLOWER. (H. and C.)
Marshes ; frequent. July-Aug.
Indian Spring Marsh. Larch Meadow and elsewhere.

555. C. Americana, L. TALL-BELLFLOWER. (H. and C.)
Shaded banks ; rare. July 15-Aug.
Near the Indian Spring. Bank near S. W. corner of the lake. (Near Seneca and Crooked Lakes, *Sartwell*; and Conewango Cr. *P. D. K.* see *Flora of N. Y.* I, p. 427.)

## ERICACEÆ.

219. GAYLUSSACIA, H. B. K.

556. G. resinosa, Torr. and Gray. BLACK-HUCKLEBERRY. (H. and C.)
Frequent on the dry banks of ravines and high hills. May.
Rarely in marshes ; as South Hill Marsh, Woodwardia Sw. and Newton's Pond, Junius. Plants are poorly developed and fruit small in this region.
*G. dumosa*, and *G. frondosa* in *Sartw. Cat.* 1844, are probably mistakes.)

220. VACCINIUM, Linn.

557. V. stamineum, L. DEER-BERRY. (H. and C.)
The half-evergreen woods of hills and ravine-banks ; frequent. May–June.

558. V. Pennsylvanicum, L, DWARF-BLUEBERRY. (H. and C.)
Dry woods or hillsides ; common. May.
Occasional in swampy tracts.

559. V. Pennsylvanicum, L. var. nigrum, Wood, occurs on the North Pinnacle, Caroline.

560. V. Canadense, Kohm. CANADA-BLUEBERRY.
Sphagnum marshes ; not common. June.
In the marshes of Freeville, McLean and Locke Pond.

561. V. vacillans, Soland. LOW-BLUEBERRY.
Dry woods ; frequent. (fruit ripens in Aug. later than *V. Pennsylvanicum*) May.

562. V. corymbosum, L. SWAMP-BLUEBERRY. (H. and C.)
Sphagnum marshes, and swamps, where it is frequent. May 25-June.

563. V. corymbosum, L. var amœnum, Gray. In Malloryville Marsh.

564. V. corybosum, L. var. atrococcum, Gray, in Larch Meadow and the Dryden Marshes.

565. **V. Oxycoccus**, L. SMALL CRANBERRY.
Sphagnum marshes; not common. June–July.
Freeville, (*Dr. Jordan*)! Malloryville. Round-Marshes. Summit Marsh. Tamarack sw., W. Junius.

566. **V. macrocarpon**, Ait. CRANBERRY. (H. and C.)
Sphagnum marshes; frequent. July–Aug.

221. CHIOGENES, Salisb.

567. **C. hispidula**, Torr. and Gray. CREEPING-SNOWBERRY. (H. and C.)
Cold sphagnum swamps; scarce. May 15–30.
Brookton Springs. Fir-Tree swamp, S E. of Danby village. Mud Cr., Freeville. Wyckoff's Swamp, Groton.

222. ARCTOSTAPHYLOS, Adans.

568. **A. Uva-ursi**, Spreng. BEAR-BERRY.
Banks of ravines; rare. (very rarely flowering here.) May.
Six Mile Cr. (nearly extinct.) Taughannock, near R. R. where it flowered, May 18, 1885.

223. EPIGÆA, Linn.

569. * **E. repens**, L. TRAILING-ARBUTUS. MAYFLOWER. (H. and C.)
Gravelly slopes of ravines and moist sandy soil in woods; abundant. Apr. 15.–May 10.
This is usually abundant in mixed woods of Chestnut and Pine.

224. GAULTIERA, Kalm.

570. * **G. procumbens**, L. WINTERGREEN. CHECKERBERRY. TEABERRY. (H. and C.)
Woods and margins of peat-bogs; common. July.

225. ANDROMEDA, Linn.

571. **A. polifolia**, L.
Sphagnum marshes; infrequent. May 15-30.
Malloryville marsh. Round-Marshes. Pond Marsh S. E. of Chicago. Tamarack sw. in W. Junius. "Junius," (*Sartwell Herb. and C.*)

572. **A. ligustrina**, Muhl.
Hill slopes; local and rare. June 15-30.
South Hill, in the marsh and ¼ mile south of the S. S. 420. Mr. Coville finds it in Chenango Co., and Knieskern gives it as "southern counties" (in Sartwell's Herb.) Our station is probably on its western limits for N. Y.

226. CASSANDRA, Don.

573. **C. calyculata**, Don. LEATHER-LEAF. (H. and C.)
Marshes or wet shores; not common. May 10--20.
Freeville, (*Dr. Jordan*—probably in Woodwardia Sw.) Malloryville. Round-Marsh and Pond Marsh S. E. of Chicago Sta. Dryden Lake valley. Locke Pond. W. Junius Sw.!

227. KALMIA, Linn.

574. K. latifolia, L. MOUNTAIN-LAUREL. IVY-BUSH.

Slopes of ravines and evergreen woods; not common. June.

"Ithaca," (*Bradley, in Sartwell's Herb and C.*; probably at Fall Creek, near the Fiske-McGraw grounds.) Sparingly in most of the woods bordering the larger ravines. Formerly in Case. Woods. On Newfield hills. Somewhat abundant in the great woods on the west slope of Taft's Hill, Caroline, and about the high cliffs or pinnacles at White Church. High hills at W. Danby.

575. K. angustifolia, L. SHEEP-LAUREL.

"Ithaca, *Dr. Bradley*," see *Paine's Cat.*, p. 102. "Junius, *Sartwell*," in *Sartwell Herb.* Possibly the Ithaca station was a mistake, as it has not been observed by any one else.

228. RHODODENDRON, Linn.

576. R. nudiflorum, Torr. (*Azalea nudiflora*, L.) PINK-AZALEA. (H. and C.)

Dry hillside woods; rarely in swamps; frequent. May.

The swamp form occurs only at Michigan Hollow, and the Dryden-Lansing swamp, where it blooms two or three weeks later than the other.

577. R. maximum, L. BIG LAUREL. RHODODENDRON. (C. by Dr. Wright.)

Deep swamps; rare. July.

In the middle of Michigan Hollow Swamp, Danby, over a space 30 meters by 10. Though abundant in Penn., there are only about a dozen reported stations in N. Y.. scattered from the Adirondacks to Chautauqua Co. The station nearest to ours, a swamp at Italy Hill, Yates, was detected by Dr. S. H. Wright (not Sartwell, as in Paine's Cat.)

229. LEDUM, Linn.

578. L. latifolium, Ait. LABRADOR TEA. (H. and C.)

Sphagnum marshes; scarce. June 1–20.

Freeville, (*Dr. Jordan*, probably at Woodwardia Sw.)! Malloryville Marsh. Round-Marshes.

230. CHIMAPHILA, Pursh.

579. C. umbellata, Nutt. PRINCE'S PINE. (PIPSISSEWA, of the South.) (H. and C.)

Dry or moist woods; common. July 10–30.

580. C. maculata, Pursh. SPOTTED PRINCE'S PINE. (H. and C.)

Dry woods; rare. July.

East shore of Cayuga L., *Ledyard*, 1827, (*in Herb. J. J. Thomas*, "*very rare.*") Lansing, (*F. B. Hine.*) West Shore, in Bates Woods, a few.

231. MONESES, Salisb.

581. M. uniflora, Gray. (H and C.)

Deep woods or shaded slopes; rare. June 15-30.

Near Ludlowville, formerly, (*Mr. Lord*). Knoll near Ellis Hollow Sw. under hemlocks, formerly.

232. PYROLA, Tourn.

582. **P. secunda**, L. (H. and C.
Evergreen woods; abundant. July 1-20.

583. **P. secunda**, L., var. **pumila**, in Paine's Cat., p. 187.
Rare; in the Fir-Tree swamp at Freeville.

584. **P. chlorantha**, Sw. (H. and C.)
Evergreen woods; frequent. June 15-July 10.
Casc. Woods, Fall Cr., and elsewhere, but only a few in a single locality.

585. **P. elliptica**, Nutt. (H. and C.)
Woods; abundant. July 10-30.

586. * **P. rotundifolia**, L. FALSE-WINTERGREEN (H. and C.)
Woods; abundant. July 10-30.
Occasionally (as on Thacher's Pinnacle) specimens occur with oblong leaves and mucronate anthers. (For corrected description see *Gray's Synopt. Flora.*)

587. **P. rotundifolia**, L., var. **uliginosa**, Gray.
In the Tamarack Sw. S. E. of Savannah, Wayne Co. "Wayne Co.," (*in Herb. Sartwell.*)

233. PTEROSPORA, Nutt.

588. **P. Andromedea**, Nutt. PINE-DROPS. (H. and C.)
Dry slopes of ravines, under Pines; rare. July 15-Aug. 10.
Coy Glen, 1874. Woods north side of Buttermilk Glen, (*F. H. Severance*, 1878; *F. V. Coville.*) Taughannock ravine, south side, (*F. C. Curtice*, 1882.) Caroline, slope of North Pinnacle, (*O. E. Pearce*, 1885)! W. Danby, slope of Thacher's Pinn. "Banks of Seneca L.," (*Dr. Gray, in Torrey's Flora of N. Y.*)

234. MONOTROPA, Linn.

589. * **M. uniflora**, L. INDIAN PIPE. (H. and C.)
Woods; frequent. July–Aug.

590. **M. Hypopitys**, L. PINE-SAP. (H. and C.)
Woods; infrequent. July-Aug.
Fall Creek woods, and very sparingly in most of the old rich woods of mixed evergreen and hardwood.

## PRIMULACEÆ.

235. PRIMULA, Linn.

591. **P. Mistassinica**, Michx. WILD PRIMROSE. (H. and C.)
Cliffs, in the crevices or wet moss; rare. May 15-30.
Fall Creek, on the "Primrose Cliffs," south side of Triphammer ravine; where it was detected by Dr. Jordan and the writer after it had flowered, June, 1871. The high walls of the gray cliffs are pink with it, when it is in bloom. It grows on the cliffs below, opposite Rocky Falls (and the wheel-house.) Also south side of Taughannock ravine (detected by Dr. C. Atwood, 1878)! Reported from only three other principal stations in N. Y.: Along Fish Creek, Annsville, north-east of Oneida L., where it was known many years ago by Knieskern and Vasey, and is said to be abundant; Deep ravine at

the head of Crooked or Keuka L., detected by Dr. Sartwell; Cliffs at Portage, Genesee R., found by the late Judge Geo. W. Clinton.

236. TRIENTALIS, Linn.

592. *T. Americana, Pursh. STAR-FLOWER. (H. and C.)
Its star-like flowers abundant in most of our cool woods and ravines. May 20-June 10.

237. STEIRONEMA, Raf.

593. *S. ciliatum, Raf. (*Lysimachia ciliata*, L.) (H. and C.)
Low grounds and near streams; frequent. July–Aug. 15.

238. LYSIMACHIA, Tourn. LOOSESTRIFE.

594. *L. quadrifolia, L. (H. and C.
Thickets, slopes of ravines, etc.; frequent. June 10-30.

595. L. stricta, Ait. (H. and C.)
Wet places, and on the larger marshes; frequent. July.

L. PUNCTATA, L., has been growing and slowly extending from the root, for four years on South Hill, near upper Hudson Street. July.

596. L. NUMMULARIA, L.
Established and rather abundant on Lockwood's Flats. In Big Gully. By the creek near Enfield Falls village. One mile north of Enfield Falls. July.

597. L. thyrsiflora, L. (H. and C.)
Marshes in standing water; infrequent. June.
Near Cayuga St., in Indian Spring Marsh. Danby swamp, on the Sabin farm. Summit marsh. Round-Marshes. Dryden-Lansing swamps. Bear Swamp, Groton. Cayuta L.

ANAGALLIS ARVENSIS, L. (SCARLET PIMPERNEL.) (C. by Dr. Wright.) was found, 1875, by the R. R. south of Caroline Sta.; not permanent.

239. SAMOLUS, Tourn.

598. S. Valerandi, L., var. Americanus, Gray. WATER PIMPERNEL. (H. and C.)
Wet shaded places, and dripping rocks; not common. July.
"Lick Brook? *H. L. Stewart*," 1870, in *Dr. Jordan's Cat.*; same station, (*O. E. Pearce*,) 1885. Woods south-east of Sherwood, (*Herb. of Mrs. Prof. Brun*,) 1883, (v. v. 1885)! Limestone falls in brook south of Goodwin's Point. Cayuga and Montezuma Marshes.

## OLEACEÆ.

240. LIGUSTRUM, Tourn.

599. *L. VULGARE, L. PRIVET. (H. and C.)
Planted near "Cliff Park." Escaped, and in several places along the top of the cliffs south of Levanna, Cayuga L. shore. June.

241. FRAXINUS, Tourn.

600. *F. Americana, L. WHITE ASH. (H. and C.)
Upland woods; abundant. May 10-20.

601. F. pubescens, Lam. DOWNY ASH. (H. and C.)
Marshes and alluvial soil; infrequent. May 10-30.

Indian Spring Marsh; thence to Negundo Woods and Larch Meadow. Cayuga Lake on all the low points; on Frontenac Island, Canoga and Cayuga Marshes. Summit Marsh. From a tree on Sheldrake Point, young shoots from the base of the tree were collected, with pubescent leaves, while leaves from older parts were entirely glabrous, appearing like the next species.

602. **F. viridis.** Michx. GREEN ASH.

Typical specimens from Farley's Point and shore south of Union Springs. Specimens from Lake Ridge, from near Fleming S. H., and from Summit Marsh, show some pubesence.

603. * **F. sambucifolia,** Lam. BLACK ASH. (H. and C.)

Swamps, or uplands, as by the Campus brook; common. May 1–20.

## APOCYNACEÆ.

242. APOCYNUM. Tourn.

604. * **A. androsæmifolium,** L. DOG-BANE. (H. and C.)

Banks and borders of woods; frequent. July.

605. * **A. cannabinum,** L. INDIAN HEMP. (H. and C.)

Dry beds of creeks and lake-shores, where it is often prostrate; common. July.

243. VINCA, Linn.

606. * V. MINOR, L. PERIWINKLE. CREEPING-MYRTLE.

Spreading only from the root, near yards and cemeteries; but established in the wildest part of Enfield ravine, below the falls.

## ASCLEPIADACEÆ.

244. ASCLEPIAS, Linn.

607. **A. tuberosa,** L. BUTTERFLY-WEED. (H. and C.)

Dry slopes of ravines and banks, where it is frequent. July.

Casc. Cr., Fall Cr., and all the ravines. Abundant on Cayuga L. shore, McKinney's to Aurora.

608. * **A. incarnata,** L. SWAMP-MILKWEED. (H. and C.)

Low grounds; common. July-Aug.

609. **A. incarnata,** L. var. **pulchra,** Pers., occurs rarely.

610. * **A. Cornuti,** Decaisne. COMMON MILKWEED. (H. and C.)

By streams and roadsides; common. July.

611. **A. phytolaccoides,** Pursh. WOOD-MILKWEED. (H. and C.)

In woods; frequent. July.

612. * **A. quadrifolia,** Michx. FOUR-LEAVED MILKWEED. (H. and C.)

Ravines and slopes; frequent. June 15-July 15.

A specimen from Franklin's ravine, (*F. H. Parsons*), has all the leaves in pairs 2-3 cm. apart.

## GENTIANACEÆ.

245. GENTIANA, Tourn.

613. **G. crinita,** Frœl. FRINGED GENTIAN. (H. and C.)

Wet marshy places; rare. Sept.

"Ithaca" (*in Herb. of Professor J. J. Thomas,*) Casc. Cr. (*Dr. Jordan*)! South of Fall Cr., formerly near the present site of the windmill on the Fiske-McGraw grounds. Sherwood, Cayuga Co. (*Miss Howland and Mrs. Brun.*) Lowery's Pond, Junius.

614. G. quinqueflora, Lam. FIVE-FLOWERED GENTIAN. (C.)
Wet gravelly banks; abundant in places. Sept.
Fall Cr. Casc. Cr., south of Willow Pond Race, and on the Pine Knoll. Very abundant near the Dart Woods, Ball Hill, and elsewhere on the higher hills. Taughannock ravine, south side. Below Sheldrake. Big Gully, and elsewhere.

615. G. Saponaria, L. (C.)
Apparently rare. In a small ravine S. E. side of Pony Hollow. "Ledyard" (*Herb. J. J. Thomas.*) Sept.

616. G. Andrewsii, Griseb. (H.)
Moist shaded banks, or brooksides; scarce. Sept.
South Hill beyond the "Incline" 1874. Fleming Meadow. Dryden L. valley. Myers Pt. north of Salmon Cr.

617. G. linearis, Frœl. (*G. Saponaria*, L. var. *linearis*, Gray. (Junius, 1827, (v. s. *in Herb. J. J. Thomas.*)

246. BARTONIA, Muhl.

618. B. tenella, Muhl. is in Sartwell Herb. from Junius.

247. MENYANTHES, Tourn.

619. M. trifoliata, L. BUCKBEAN.
Sphagnum bogs; infrequent. May 20-30.
Freeville. Malloryville. Round-Marshes. Near the Pond S. E. of Chicago Sta. Summit Marsh. "Junius" (*Sartw. H. and C.*)!

## POLEMONIACEÆ.

248. PHLOX, Linn.

PHLOX PANICULATA, L. and P. MACULATA, L. have appeared at Ithaca and McLean as scapes to meadows and roadsides.

620. * P. divaricata, L. BLUE PHLOX. (H. and C.)
Rich woods; frequent. May-June.
Fall Cr. Negundo Woods. Ravines of the lakeshore. Woods near Freeville, and elsewhere. A form in Taughannock ravine has elongated leaves, more than usually glandular-pubescent, and white corollas with obovate entire lobes. The ordinary form often has entire corolla lobes,

621. P. subulata, L. MOSS-PINK. (C.)
Dry grassy or rocky banks, where it is common. May.
Along all our ravines. Abund. on South Hill south of S. S. 420. Slopes along the lake shore are pink with it in May. It also occurs on the high pinnacles in Danby and Caroline. Rarely occurs with white flowers, (*A. L. Coville.*)

## HYDROPHYLLACEÆ.

249. HYDROPHYLLUM, Tourn. WATER-LEAF.

622. * H. Virginicum, L. (H. and C.)
Ravines and rich woods; abundant. June.

623. **H. Canadense**, L. (H. and C.)
Rich woods; frequent. A little later than the preceding.
Six Mile Cr. (Beechwoods.) Negundo Woods. Woods near Freeville, McLean, Locke Pond, Danby and elsewhere.

## BORRAGINACEÆ.

250. CYNOGLOSSUM, Tourn.

624. *C. OFFICINALE, L. HOUNDS-TONGUE. "TORY-WEED,"—a name local in Cayuga Co. many years ago. (*J. J. Thomas.*) (H. and C.)
A common roadside and pasture weed. June–July.
A form with pink flowers occurs occasionally. White-flowered plants grow near Hemlock Brook, Groton; also at "Penn Yan," (*Sartwell in Herb.*)

625. **C. Virginicum**, L. WILD COMFREY. (C.)
Woods on the higher hills; not common. June-July.
Turkey Hill, eastward to Ringwood. Dart Woods. High hills of Newfield, Danby and Caroline.

251. ECHINOSPERMUM, Swartz.

626. **E. Virginicum**, Lehm. (*Cynoglossum Morisoni*, DC. BEGGARS-LICE. (H. and C.)
Woods and low thickets; common. July–Aug.

627. E. LAPPULA, Lehm. STICKWEED. (H. and C.)
Sandy or gravelly soil, lake shores and villages; frequent. July–Sept.
Near the Armory, and on Buffalo St. Near Fall Cr. Mills. Frequent on the sandy points of Cayuga L. and along the R. R.

252. MERTENSIA, Roth.

628. **M. Virginica**, DC. VIRGINIAN COWSLIP. BLUE-BELLS.
Rich alluvial soil; scarce. Apr. 25–May.
Taughannock ravine, (*Dr. Jordan.*)! Negundo Woods, (*Professor Branner*)! "Valley south of Buttermilk Falls," (*O. L. Taylor*)! Bank of Negunæna Cr., near the Fleming S. H., and near mouth of Enfield Cr. Near Ellis Hollow Swamp, (*F. T. Wilson*)!

253. MYOSOTIS, Linn.

629. M. PALUSTRIS, With. TRUE FORGET-ME-NOT. (H. and C.)
In water, in marsh north of Fall Cr. and also along Cayuga St. June 15-July.

630. **M. laxa**, Lehm. (*M. palustris* With. var. *laxa*, Gr.)
In wet places; abundant. June–Sept.
Flowers occasionally pink.

631. M. ARVENSIS, Hoff. SCORPION-GRASS. (H. and C.)
Shaded sandy soil; scarce and probably introduced, June.
Cemetery, Ithaca. (*F. L. Kilborne.*) Bushy Point, Cayuga L.

632. M. COLLINA, Hoff. (apparently this species) found by Mr. Kilborne in 1882; appears each year.

633. **M. verna**, Nutt.
Dry, barren woods near the lake; occasional. June.

Farley's Pt., (*Herb. J. J. Thomas.*) From Renwick Farm to Willet's Sta. Near Taughannock and Trumansburg ravines. In the bottom of Franklin's ravine it grows 30 cm. in height and still taller in the rich wooded slope, east side of the valley at Watkins.

254. LITHOSPERMUM, Tourn.

634. L. ARVENSE, L. CORN-GROMWELL. (H. and C.)
A common weed in grain fields, etc., in dry soil. May, June.

635. L. OFFICINALE, L. COMMON-GROMWELL.
Roadsides and meadows; not common. June-July.
Near Ludlowville, N. Y., (*Mr. Lord.*) Aurora to Chapel-Corners, especially near the latter. Near Wood's Sta. in Scipio.

636. L. latifolium, Michx. (H. and C.)
Shaded ground near streams; rare. June.
Salmon Cr. ravine, north bank with *Ionidium*, 1871 to 1885. Fall Cr. on island above Forest Home, (*F. B. Hine,*) 1875.

[L. canescens, Lehm. Near Auburn, N. Y. *I. H. Hall, in Paine's Cat.*, p. 114.]

255. ONOSMODIUM, Michx.

637. O. Carolinianum, DC.
Hillsides; local. July.
South Hill from near the reservoir to the Quarry Woods beyond the "Incline;" frequent over this area.

[O. Virginianum, DC. "Seneca L.," *Sartwell's Cat. of* 1884.]

256. SYMPHYTUM, Tourn.

638. *S. OFFICINALE, L. COMFREY. (H. and C.)
Rich soil along streams; not uncommon. June-July.
Casc. Cr., abund. above Judd's Falls. Six Mile Cr. Neguæna valley to Newfield. Myers Point and near Lake Ridge Sta. abundant. Fall Cr., E. of Freeville and elsewhere.

BORRAGO OFFICINALIS, L., appeared on the Campus in 1878 and in 1880.

ASPERUGO PROCUMBENS, L., was found in 1885 near E. Hill S. H. by *F. V. Coville.*

## CONVOLVULACEÆ.

IPOMEA, Linn.

I. COCCINEA, L., was growing, in 1885, in a large mass by the old road crossing the marsh to the steamboat landing.

I. PURPUREA, Lam. MORNING-GLORY.
Springing up in the same place for several years, perhaps from self-sown seeds. July-Aug.
Six Mile Creek near Cayuga St. bridge. North of Ithaca, by R. R. near the Glass-works, and by an old road. U. Springs near the mill, and the R. R.

I. NIL, Roth., occasionally seen with the preceding.

257. CONVOLVULUS, Linn.

639. C. ARVENSIS, L. BIND-WEED. (H. and C.)
Roadsides and old fields; scarce. June–July.

Fall Cr., on the Circus Common. Hazen St., Ithaca, (*F. V. Coville.*)

640. * C. spithamæus, L. (*Calystegia spithamæa*, Pursh.) HEDGE-BIND-WEED. (H. and C.)
Declivities of ravines and hills; not common. June.
Fall Cr., lower part of ravine, and bank toward the "Nook." Enfield ravine, north and south bank. W. Danby Pinnacles. Taughannock. Lake shore, north of King's Ferry.

641. * C. sepium, L. (*Calystegia sepium*, R. Br.) (H. and C.)
Banks of streams and lakes; common. June–Sept.
A form (possibly *var. repens*, Gray.) on Montezuma marshes, has stems scarcely twining, leaves narrowly hastate, pubescent.

258. CUSCUTA, Tourn. DODDER.

642. C. tenuiflora, Englm.
Shores or low grounds; rare. Aug.–Sept.
Union Springs (on *Mentha piperita*, L.) Montezuma, on meadows north-east of village, abundant (on *Aster paniculatus*, Lam.)

643. C. inflexa, Englm.
Hillsides and thickets; scarce. Aug., Sept.
Fall Cr. (on *Asters* and *Solidagos.*) Hillside near White Church (on *Daisies* and *Ceanothus.*) W. Danby, by the hill road near Thacher's Pinnacle.

644. C. Gronovii, Willd. (H. and C.)
Near marshes; frequent (on various plants.) Aug.

645. C. EPILINUM, Weihe. Frequent on the cultivated flax on farms E. of Owasco L. (*Mr. Kilborne*); also rarely appears in flax fields between Cayuga L. and Seneca L. This is the injurious "FLAX-DODDER" of Eur.

## SOLANACEÆ.

259. SOLANUM, Tourn.

646. S. NIGRUM, L. COMMON NIGHTSHADE. (H. and C.)
Shady or waste ground; not common. July–Sept.
Casc. Cr., (*H. L. Stewart*)! Fall Cr. and elsewhere about Ithaca and Cayuga L. shore.

647. S. DULCAMARA, L. NIGHTSDADE BITTER-SWEET. (H. and C.)
Hedges, thickets and swamps; common. June–Aug.

260. PHYSALIS, Linn.

648. P. Virginiana, Mill. (*P. viscosa*, of Man., p. 382.) GROUND CHERRY. (H and C.)
Dry banks and fields; occasional. July–Sept.
Fall Creek, in the ravine; in the field south of Ithaca Fall, and elsewhere.

[P. pubescens, L. (*P. obscura*, Mx.) at Penn Yan, (*Sartwell, Herb. and C.*)]

261. LYCIUM, Linn.

649. * L. VULGARE, Dunal. MATRIMONY-VINE. (H. and C.)
Fall Creek, on the Circus Common. Near Freeville. June.

262. DATURA, Linn.

650. *D. STRAMONIUM, L. STRAMONIUM. (H. and C.)
Waste grounds, and lake-shore ; frequent. Aug.–Sept.

651. D. TATULA, L., with the preceding. PURPLE STRAMONIUM. (H. and C.)

LYCOPERSICUM ESCULENTUM, Mill., (TOMATO.) is occasional on the lake shore and near Ithaca.

[NICANDRA PHYSALOIDES, Gærtn., at Penn Yan, (*Sartwell, Herb. and C.*)]

## SCROPHULARIACEÆ.

263. VERBASCUM, Linn.

652. *V. THAPSUS, L. MULLEIN. (H. and C.)
Fields ; common, especially in old fields along the lake and the ravines. July–Sept.

653. V. BLATTARIA, L. MOTH-MULLEIN. (H. and C.)
Fields and pastures ; frequent. June–Aug.
Form with yellow flowers near Six Mile Cr., White Church and Danby; form with white, Six Mile Cr., McLean and elsewhere.

264. LINARIA, Tourn.

654. *L. VULGARIS, Mill. TOAD-FLAX. (H. and C.)
Gravelly banks and fields ; frequent. June–Oct.

655. L. ELATINE, Mill. (C.)
Shores, etc.; rare. June–Sept.
"Shores of Cayuga L." (probably at Sheldrake), (*Gray in Torrey's Flora.*) Sheldrake Pt., (*Mr. Lord.*)! Farley's Pt., several places, and by the R. R., just east. (Streets of Geneva, *Sartwell.*)

265. COLLINSIA, Nutt.

656. C. verna, Nutt.
"Ithaca, *Aikin*," (*Torrey's Flora of N. Y.*) Although it is certain that Aikin visited Cayuga L. about fifty years since, no specimen of *Collinsia* from Ithaca exists in Dr. Torrey's herbarium, and this beautiful flower has never been rediscovered here.

266. SCROPHULARIA, Tourn.

657. S. nodosa, L. FIGWORT. (H. and C.)
Rich soil along streams, and in ravines ; frequent. June–Aug.

267. CHELONE, Linn.

658. *C. glabra, L. TURTLE-HEAD. (H. and C.)
Marshes, meadows and swamps ; frequent. Aug.–Sept.

268. PENTSTEMON, Mitchell.

659. *P. pubescens, Soland. BEARD-TONGUE. (H. and C.
Rocky places ; abundant along ravines and cliffs. June–July.
Near mouth of Fall Cr. ravine, (*Pursh.*, 1807.)! One of the few plants of this region mentioned by him in his Journal of Travels. It is particularly abundant and beautiful on the ledges of the lake shore cliffs, taking the place of the earlier Columbines.

269. MIMULUS, Linn.

660. *M. ringens, L. MONKEY-FLOWER. (H. and C.)
Marshes and brooksides; common. July, Aug.

270. GRATIOLA, Linn.

661. G. Virginiana, L. (H. and C.)
Muddy shores and fields; frequent. July–Aug.

271. ILYSANTHES, Raf.

662. I. gratioloides, Benth. FALSE PIMPERNEL. (H. and C.)
Wet shores; scarce. July–Aug.
Lake marsh, (*Dr. Jordan.*) Shore W. of Inlet. Mouth of Salmon Cr. Near R. R., east of Judd's Falls. Cortland Marl Ponds.

272. VERONICA, Linn.

663. V. Virginica, L. CULVER'S-ROOT.
Sheltered banks; rare. July 15–Aug.
Near Fall Cr, north of Ithaca, (*Dr. Underwood, of Groton.*) Woods near end of Farley's Point. Utt's Point. The wild bank beyond the Fleming S. H. "Junius," (*Sartw. Herb. and C.*)

664, *V. Anagallis, L. WATER-SPEEDWELL. (H. and C.)
Usually in water; rare or local. Aug.
Eddy Pond, 1882. Marl Ponds of Cortland. Abundant in outlet of Lay's Iron Spring, west of Black Lake.

665. *V. Americana, Schwein. BROOK-LIME. (H. and C.)
In rivulets and ravines; frequent. June–July.

666. *V. scutellata, L. MARSH-SPEEDWELL. (H. and C.)
Marshy places; frequent. June–Oct.

667. *V. officinalis, L. COMMON SPEEDWELL. (H. and C.)
Roadsides, old fields and pastures; frequent. June–July,
Particularly abund. on West Hill, Turkey Hill and near McLean.

668. V. serpyllifolia, L. THYME-LEAVED SPEEDWELL. (H. and C.)
Fields and lawns; common. May–Oct.

669. V. peregrina, L. (H. and C.)
Cult. ground; common. May–June.

670. V. ARVENSIS, L. CORN-SPEEDWELL. (H. and C.)
Cult. grounds; common. (Gray, in *Synopt. Flora*, considers it "rather rare." May–June.

671. V. BUXBAUMII, Tenore.
Cult. ground; local, but persistently spreading. Mar.–April.
W. Hill in Sanford's garden, (*Prof. J. H. Comstock*, 1882)!

[Buchnera Americana, L., in Gorham, Ont. Co., (*Sartwell, in Herb. and C.*)]

273. GERARDIA, Linn.

672. G. Pedicularia, L. (H. and C.)
Dry woods near most of our ravines; frequent. Aug.–Sept.
Particularly abundant, certain years, in Cornell's woods near Casc. Cr. Beside the ravine stations it occurs in Ball Hill woods, and Thacher's Pinnacle, in Danby; also the declivities near White Church.

673. G. flava, L. Downy False-Foxglove. (H. and C.
Open dry woods of Oak; frequent. July–Aug.

674. G. quercifolia, Pursh. Smooth False-Foxglove. (H. and C.)
The larger open woods along ravines and on hills; not rare. July–Aug.
Coy Glen. Bates Woods west of Cayuga L. Hills of Danby and Caroline, and elsewhere.

675. G. purpurea, L. Purple Gerardia. (C.)
Shores; rare. Aug.–Sept.
Farley's Point, rather abundant along the south shore. Marsh about Newton's Ponds, Junius.

676. G. tenuifolia, Vahl. Slender Gerardia. (H. and C.)
Sandy banks; rare. Aug., Sept.
North bank of Salmon Cr. below Ludlowville.

274. Castilleia, Mutis.

677. * C. coccinea, Spreng. Painted-cup. (H. and C.)
"Near Aurora," (*Dr. Alex. Thompson, Cat. of* 1842.) Not now known within limits. Miss Arnold sends specimens (some scarlet, some yellow,) from Painted Post.

275. Pedicularis, Tourn.

678. * P. Canadensis, L. Lousewort. (H. and C.)
Open woods, and ravines; common. May.

679. P. lanceolata, Michx.
Banks and marshy places; rare. Aug. 20–Sept. 20.
Small marsh west of Pleasant Grove Cemetery. East of the Clock Factory, Ithaca. Ludlowville, near the R. R. north of Salmon Cr.

276. Melampyrum, Tourn.

680. M Americanum, Michx. Cow-wheat. (H. and C.)
Dry woods, near ravines and on hill; common. June–July.

## OROBANCHACEÆ.

277. Aphyllon, Mitchell.

681. A. uniflorum, Gray. Broom-rape. (C.)
Moist shaded places; scarce. May 20–June.
Fall Cr. near Beebe Pond. Casc. Woods. Turkey Hill, in woods.

278. Conopholis, Wallr.

682. * C. Americana, Wallr. Cancer-root. (H. and C.)
Woodlands on the hills; not rare. July.
"Ledyard, in woods of Red and Yellow Oak; rare," (in *Herb. J. J. Thomas.*) Turkey Hill, (*F. H. Severance,*) 1878! Woods north of Forest Home, (*F. C. Curtice.*) High hills in Caroline. Danby, hills east of village. Woods in Ovid.

279. Epiphegus, Nutt.

683. * E. Virginiana, Bart. Beech-drops. (H. and C.)
Beech woods; frequent. Sept.–Oct.

## LENTIBULACEÆ.

### 280. UTRICULARIA, Linn. BLADDERWORT.

684. **U. vulgaris**, L. COMMON BLADDERWORT. (H. and C.)
Aquatic; frequent. July 15–Aug.
Still water bayous near mouth of Fall Cr. and near C. S. R. R. at Glass-works and the Corner-of-the-lake. Pools between the R. R. and the cliffs north of Ludlowville, and north of King's Ferry. Marsh north of Union Springs. "Union Springs," (*in Herb. J. J. Thomas.*) Black Lake and Cayuga Marshes.

685. **U. minor**, L.
Specimens with foliage and bladders of this species, but flowers not seen, occur in Summit Marsh and Black Lake. Flowering time for this latitude is, June 10–July 15.

686. **U. intermedia**, Hayne.
Marshes and shallow water; scarce. July 15–Aug. 15.
Swamp north of Dryden L. Summit Marsh. Black Lake.

687. **U. cornuta**, Michx.; rare, on muddy shores or marshes, July, is in *Sartwell, Herb. and C.* from "Junius." It occurs just north of the Junius Pout Pond in abundance.

### 281. PINGUICULA, Tourn.

688. **P. vulgaris**, L. PINGUICULA, BUTTERWORT.
Wet cliffs, in ravines; rare. June 10–30.
Cascadilla Creek, (*Dr. Jordan.* 1869)! where it has continued on both sides of the Glen Pond; also grows farther down the ravine. Fall Creek on the "Primrose Cliffs;" also opposite Rocky Falls. Taughannock ravine, south side with *Saxifraga aizoides*, L. The only other stations reported for N. Y. are on the Genessee River—formerly "in meadows below the Falls at Rochester," (*Dewey, Carey* and others,) and still existing below Portage Falls, (*Dewey;* and "*Plants of Buffalo*," 1882.)

## BIGNONIACEÆ.

### 282. CATALPA, Scop., Walt.

689. * C. BIGNONIOIDES, Walt. (CATALPA) is growing spontaneously under the cliff west of the Ithaca Cemetery.

## ACANTHACEÆ.

### 283. DIANTHERA, Linn.

690. **D. Americana**, L. WATER-WILLOW.
Shores, and borders of marshes; scarce. July–Aug.
Farley's Point. From Cayuga Bridge to Montezuma, along Seneca R.

## VERBENACEÆ.

### 284. PHRYMA, Linn.

691. **P. Leptostachya**, L. LOP-SEED. (H. and C.)
Woods and thickets; frequent. July.

285. VERBENA, Tourn.

692. * V. urticæfolia, L. WHITE VERVAIN. (H. and C.)
Low grounds; common. July–Sept.
Form with pink flowers, at Mud Cr. Form (hybrid with *V. hastata*, L.?) in Trumansburg ravine, with flowers lavendar or pink. (For discussion of hybrid Verbenas, see Engleman in *Am. Jour. Sci.*, XLVI.) Hybrids with purple and with blue flowers, are from Penn Yan, in *Herb. Sartwell.*

693. V. hastata, L. BLUE VERVAIN. (H. and C.)
Low grounds; common. July–Sept.

## LABIATÆ.

TRICHOSTEMA DICHOTOMUM, L., (BLUE CURLS,) was found by F. B. Hine, in 1879, on the high bank north of Beebe Pond. Not seen since.

286. TEUCRIUM, Linn.

694. * T. Canadense, L. GERMANDER. (H. and C.)
Along the lake shores and marshes; frequent. July–Sept.
Form with white flowers near Seneca L., (*Sartwell, H. and C.*)

287. COLLINSONIA, Linn.

695. * C. Canadensis, L. HORSE BALM. H. and C).
Woods and moist shaded places; common. July–Aug.

288. MENTHA, Tourn.

696. * M. VIRIDIS, L. SPEARMINT. (H. and C.)
Roadsides and wet places; common. Aug.–Sept.

697. * M. PIPERITA, L. PEPPERMINT. (H. and C.)
Dry beds of streams and elsewhere; common.

698. M. PIPERITA, L. var. SUBHIRSUTA, Benth.; apparently this form occurs among the willows, south end of Cayuga L. east of Fall Cr.

699. * M. Canadensis, L. WILD-MINT. (H. and C.)
Along water courses and marshes; common. July–Sept.

289. LYCOPUS, Tourn.

700. L. Virginicus, L. BUGLE-WEED. (H. and C.)
Wet places, often in ravines; common. Aug., Sept.
Specimens growing at the foot of the cliffs north of Ludlowville Sta. exhibit well formed tubers at the ends of numerous slender drooping branches.

701. L. sinuatus, Ell. (*L. Europaeus*, L., var. *sinuatus*, see Man., p. 345.) (H. and C.)
Shores and marshes; common. July–Sept.
One of the commonest plants on Cayuga and Montezuma Marshes.

[HYSSOPUS OFFICINALIS, L. Frequent in Yates Co., *Sartwell, H. and C.*]

290. PYCNANTHEMUM, Michx. MOUNTAIN-MINT.

702. P. lanceolatum, Pursh.
Borders of West Junius marshes, about the ponds. Aug. 15-Sept.

703. P. incanum, Michx. (H. and C.)
Dry woods near the lake; not common. July–Aug.
Near Pleasant Grove Brook. Woods and slopes from McKinney's north. S. W. corner of Cayuga L. North of Ludlowville, and of King's Ferry. Paine's Creek.

291. THYMUS, Tourn.

704. T. SERPYLLUM, L. CREEPING THYME. WILD THYME.
Beside the road between W. Groton and Locke; well established, (*F. L. Kilborne,*) Aug. 15, 1881.

T. VULGARIS, L. Found one year, (1882,) growing spontaneously on the Fiske-McGraw grounds, (by *F. L. K.*)

292. CALAMINTHA, Tourn.

705. C. ACINOS, Clairv.
Along the road east of Ithaca Cemetery. (*Mr. Lord*, 1881)! It also occurs in the rocky part of the cemetery.

706. C. Clinopodium, L. BASIL. (H. and C.)
Fields and pastures; common. July.

293. MELISSA, Tourn.

707. *M. OFFICINALIS, L. COMMON BALM. (C.)
Roadsides and banks; scarce. July–Aug.
By road "near Newfield," 1878, (*Trelease* and *Severance.*) By R. R. near King's Ferry. Big Gully, below crossing of second road.

294. HEDEOMA, Pers.

708. *H. pulegeoides, Pers. PENNYROYAL. (H. and C.)
Dry ground; abundant. Aug.

295. MONARDA, Linn.

709. *M. didyma, L. BEE-BALM. SCARLET BALM. (H. and C.)
Rich woods, borders of low grounds; frequent. July-Sept.
Lake Marshes, 1873, (*Kellermann*)! Negundo Woods. Casc. Cr. toward Ellis Hollow, through Ringwood, to the Freeville and Round-Marsh region. White Church valley. Danby. W. Danby to Signer's Woods. Taughannock and other ravines.

710. M. Clinopodia, L. (*M. fistulosa*, L., in part, of the Man. *Pycnanthemum Monardella*, Michx., Flora, II, 8, t. 34.)
Shaded ravines; rare. July-Aug.
Six Mile Cr., below Green-Tree Falls. Trumansburg ravine. This plant is characterized by its taller, slender, nearly smooth or somewhat villous stems; thin, slender-petioled, coarsely-serrate leaves; throat of calyx sparingly hirsute and corolla dull-white or pink, and rather shorter than in *M. fistulosa L.* (See *Gray, Synopt. Flora*, II, (1), p. 374.)

711. *M. fistulosa, L., var. mollis, Benth., (see *Gray, Synopt. Flora*, II, (1), p. 374.) WILD BERGAMOT. (H. and C.)
River-banks and shores; frequent.
Negundo Woods, and up the valley to Newfield. Renwick. Myers Point. Paine's Cr. Union Springs. Taughannock, etc.

712. M. fistulosa, L., var. rubra, Gray? (or possibly a hybrid, as Dr. Gray suggests.) On the wild bank beyond the Fleming S. H., several variable plants with large heads and rose-colored corollas, suggesting *M. didyma* in habit.

296. BLEPHILIA, Raf.

713. B. hirsuta, Benth. (C. by Dr. Wright.)
Shaded ravines and banks of streams; scarce. July.
Fall Cr., Beebe Pond, on the island. Six Mile Cr., in the amphitheatre above the "Narrows." Enfield in ravine below the Falls. Near the south shore of Cayuga L.

297. LOPHANTHUS, Benth. GIANT HYSSOP.

714. L. nepetoides, Benth. (C.)
Rich soil and shaded banks; scarce. Aug.
S. W. corner of the Lake. Negundo Woods. South Hill.

715. L. scrophulariæfolius, Benth. (H. and C.)
With the preceding; scarce. Aug.
By road toward Renwick. Near S. W. corner of the lake. Paine's Cr.

298. NEPETA, Linn.

716. *N. CATARIA, L. CATNIP. (H. and C.)
Waste places and shores; common. July-Oct.

717. N. GLECHOMA, Benth. GROUND IVY. GILL. (H. and C.)
Waste places and in ravines; frequent. Apr.–Aug.

299. SCUTELLARIA, Linn. SKULL-CAP.

718. * S. lateriflora. L. (H. and C.)
Low grounds; frequent. Aug.

719. *S. galericulata, L. (H. and C.)
Borders of marshes; frequent. July, Aug.
An erect form often grows freely on the R. R. embankments near the lake.

300. BRUNELLA, Tourn.

720. * B. vulgaris, L. BRUNELLA. (H. and C.)
Fields; common. July-Oct.
Forms with white flowers near Mud Cr. and Beaver Cr.; with pink flowers near Beaver Cr.

PHYSOSTEGIA VIRGINIANA, Benth., formerly grew by the brook in the fields east of the R. Catholic cemetery near Ithaca. It continued from 1873 till 1884, but seems to be now extinct. Probably introduced.

301. MARRUBIUM, Tourn.

721. *M. VULGARE, L. HOREHOUND. (H. and C.)
Reported from near Enfield Falls (*Severance* and *Trelease*); and "near Ithaca," (*Mr. Lord.*) Abundant in a field S. W. of Paine's Cr., also occurs in the ravine. July–Aug.

302. LEONURUS, Linn.

722. *L. CARDIACA, L. MOTHERWORT.
Fields and waste places; common. July-Sept.

303. LAMIUM, Tourn. DEAD-NETTLE.

723. L. AMPLEXICAULE, L.

Fields; scarce. Apr.–Nov.

E. Hill, on the campus and farm. Fall Cr. Circus Common. Near Big Gully.

L. MACULATUM, L., has escaped by the road north of Forest Home.

304. GALEOPSIS, Linn.

724. *G. TETRAHIT, L. HEMP-NETTLE. (H. and C.)

Waste grounds; not common. July–Sept.

Fall Cr. below the mills. Freeville. Near Groton. Locke Pond.

305. STACHYS, Tourn.

725. * S. aspera, Michx., (*S. palustris*, L., var. *aspera*, Gray.) (H. and C.)

Abundant on both shores of Cayuga L. July–Sept.

726. S. aspera, Mich., var. glabra, Gray.

In herb. of Prof'r J. J. Thomas from Cayuga L. Lake marsh near Ithaca. Near McKinney's.

## PLANTAGINACEÆ.

306. PLANTAGO, L. PLANTAIN.

727. P. cordata, Lam., is in herb. of Professor Thomas, collected in Ledyard, 1827.

728. * P. MAJOR, L. (H and C.)

Fields, shores and pastures; frequent. June–Sept.

This species is distinguished from the following by its thicker, shorter spike, its short, ovoid, obtuse capsules and ovate, obtuse, scarious margined sepals, and its leaves often dull green and hairy. It is less common than the next species in our Flora, and has long been confused with it everywhere. The var. *minima*, (*P. minima*. DC.) occurs in cold, dry soils near Freeville, Summit Marsh and on the higher hills.

729. P. Rugelii, Decaisne. (*P. Kamtschatica*, of Man., p. 311,—not of Cham.)

The commonest roadside and yard plantain. June–Sept.

The spikes are longer than in *P. Major*, L., less dense, capsules oblong-cylindrical and sepals oblong and acute. The leaves are large, usually shining, bright green, the petioles often tinged with purple. Dr. Gray regards *P. Rugelii*, Decaisne, as "truly indigenous, as no trace of it is found in the Old World." The spike of this species is frequently fasciated at the summit.

730. * P. LANCEOLATA, L. RIBWORT. (H. and C.)

Fields; common. June–Aug.

731. P. MEDIA, L.

Grounds of the Pres.-White place since 1883 (*F. L. Kilborne*)! Specimens were transferred to the Sage Building court. It is recognized by its broadly oval, hairy leaves lying flat upon the turf, and by its conspicuous, usually pale-purple stamens.

## ILLICEBRACEÆ.

### 307. Anychia, Michx.

732. A. dichotoma, Michx. (C.)
Dry banks and cliffs, where it is frequent. July.
Fall Cr. and Casc. Cr. Near McKinneys. Salmon Cr. Taughannock ravine. High cliffs at King's Ferry and elsewhere.

### 308. Scleranthus, Linn.

733. S. annuus, L.
Field south of Coy Glen. Sheldrake Point. June–July.

## AMARANTACEÆ.

### 309. Amarantus, Tourn.

734. A. paniculatus, L. Red Amaranth.
Roadsides. Near Renwick and on the Univ. campus. July.

735. A. retroflexus, L. Pigweed. (H.)
Fields; everywhere common. July–Sept.

736. A. chlorostachys, Willd.
Less common than the preceding, but frequent.

737. A. albus, L. (H. and C.)
Fields and shores; abundant.

738. A. blitoides, Watson. Tumble-weed.
An immigrant from the far west. July-Aug.
Union Springs, by the R. R., near the steamboat landing, 1881. West of Cayuga Bridge, 1885.
"Prostrate or decumbent, the slender stems becoming a foot or two long, glabrous or nearly so; leaves broadly spatulate to narrowly oblanceolate, attenuate to a slender petiole, an inch long or usually less; flowers in small contracted axillary spikelets; bracts nearly equal, ovate-oblong, shortly acuminate, 1 to 1½ lines long, little exceeding the oblong obtuse and mucronulate or acute sepals; utricle not rugose slightly longer than the sepals; seed nearly a line broad." (*Watson, Proc. Amer. Acad.*, XII, p. 273). Somewhat resembles *A. albus*, L. On the western plains it becomes one of the "tumble-weeds," in autumn, being broken off at the root, and driven before the wind.

## CHENOPODIACEÆ.

### 310. Chenopodium, Linn.

739. C. album, L. Pigweed. (H. and C.)
Fields; very common. July–Sept.

740. C. urbicum, L. (H.)
Recently introduced; Ithaca, Cayuga St., 1880; Aurora St., 1882.

741. C. hybridum, L. (H. and C.)
Waste places, and the lake shore; frequent. Aug.–Sept.
Appearing as if indigenous on the rocks at Esty Glen, King's Ferry, etc.

742. C. Botrys, L. Jerusalem Oak. (H. and C.)
Dry soil; infrequent. July–Oct.

Fall Cr. mills. Near Inlet by D. L. and W. R. R. U. Springs and Lockwood's Flats, (*Herb. J. J. Thomas.*) Kidder's Ferry. Sheldrake Pt.

311. BLITUM, Tourn.

743. **B. rubrum**, Reich. (*B. maritimum, of Man.*, p. 408.)
Brackish soil; rare, on meadows N. E. of Montezuma village. Aug.–Sept.

744. **B. capitatum**, L. STRAWBERRY BLITE. (H. and C.)
Woods and newly cleared soil; scarce. Aug., Sept.
Near Freeville sphagnum bog. Pasture near the Marl Ponds. Hill east of Pony Hollow. Near Ludlowville, (*Mr. Lord.*) Ledyard, 1827, (*Herb. J. J. Thomas.*)

312. ATRIPLEX, Tourn.

745. **A. patula**, L., var. **hastata**, Gray. Aug.–Oct.
Streets of Ithaca. Sheldrake Pt. Union Springs and Cayuga Bridge. Near the Indian Salt-Spring west of Cayuga marshes, near the "Deer-lick," and near brackish meadows at Montezuma, the stems are bright red in autumn.

745[a]. **A. patula**, L., var. **littoralis**, Gray.
Buffalo St., Ithaca, and on the marsh; abundant. Union Springs on Farley's Point and Howland's Point.

## PHYTOLACCACEÆ.

313. PHYTOLACCA, Tourn.

746. **P. decandra**, L. POKEBERRY. (H. and C.)
Dry hillsides and pastures; frequent. Aug.

## POLYGONACEÆ.

314. RUMEX, Linn.

747. R. PATIENTIA, L. PATIENCE DOCK.
Ithaca, near Six Mile Cr. bridge, (Cayuga St.) Near W. Junius. June–July.

748. **R. Britannica**, L. (*R. orbiculatus*, Gray's Man. (H. and C.)
Large marshes, where it is abundant. Aug.–Sept.
Ithaca, marsh near the Lake. Summit Marsh. Round Marshes. Dryden L. "Cayuga marshes," (*G. W. C.*, 1864, 18th N. Y. Rep., p. 201;) Very conspicuous on these and Montezuma Marshes in autumn from its large plumes of pink fruit.

749. **R. verticillatus**, L. SWAMP DOCK. (H. and C.)
Marshes; abundant. June–July.
Marshes at the head of Cayuga L. Cayuga Marshes, Summit Marsh, and elsewhere.

750. * R. CRISPUS, L. YELLOW DOCK. (H. and C.)
Fields; common. June-Sept.

751. R. OBTUSIFOLIUS, L. BITTER DOCK. (H. and C.)
Roadsides and woods; frequent. July, Sept.
Occasionally specimens possess red-veined radical leaves.

752. R. crispus, L. × R. obtusifolius, L.

Specimens with the narrow leaf, nearly that of *R. crispus*, and the valves toothed somewhat less than *R. obtusifolius*, occur near the outlet of Dryden L., near Renwick, and by roadside in Danby.

753. R. CONGLOMERATUS, Murr.

Near the Marl Ponds, Cortland.

754. R. ACETOSELLA, L. SHEEP SORREL. (H. and C.)

Fields everywhere. May–Sept.

[R. ACETOSA, L., at Penn Yan, (*Sartwell in Herb. and Wright in C.*)]

315. POLYGONUM, Linn.

755. P. ORIENTALE, L. PRINCES FEATHER. (H. and C.)

Waste ground and shores; occasional. Aug.

Near Six Mile Cr., south of Ithaca; near the Inlet. Cayuga Lake shore, especially south of Cayuga Bridge.

756. P. Pennsylvanicum, L. (H. and C.)

In moist, rich soil; common. Aug.–Oct.

757. P. incarnatum, Ell.

Marshes and shores; not common. July–Sept.

Inlet marshes, (*Dr. Jordan.*) ! Frequent near the foot of Cayuga Lake and along its outlet. Ledyard 1827, (*Herb. J. J. Thomas.*)

758. P. NODOSUM, Pers.

Scarce near the shores of Cayuga Lake (where it seems indigenous,) at the south end, on Myers Pt. W. of Cayuga Bridge and on Cayuga Marshes. Aug.–Sept.

"Stem annual, stout, (1°–4°), mostly glabrous, often sparingly and minutely glandular on the peduncles. Sheaths not fringed or hairy; style 2-cleft; stamens 6; leaves narrowly lanceolate, attenuate upwards from near the base and acuminate, cuneate at the base and short petioled, somewhat scabrous with short prickly hairs near the midribs and margins; spikes oblong and erect, or often linear and nodding, 1′ long or more; flowers 1″ long, white or rose; akenes ovate less than a line broad." Chiefly Rocky Mts. and Pacific Coast. (*Bot. of Cal.*, II., p. 13.)

Mr. Watson writes me that it has been found along railroads in Mass. sparingly.

759. P. lapathifolium, Ait., var. incanum, Koch.

"Borders of Cayuga L." ("*Chickering and Brewer*" in Man., p. 416.) Not yet rediscovered here.

760. P. PERSICARIA, L. (H. and C.)

Common everywhere. July–Oct.

A very smooth form prostrate and rooting occurs in exsiccated places. A much branched hairy form with interrupted spikes, flowers and bracts of a brighter pink than usual, grows along Canoga Marshes.

761. P. Hydropiper, L. SMARTWEED. (C.)

Fields and low grounds; common. Aug.–Sept.

762. **P. acre**, H. B. K. (C. by Dr. Wright.)

Marshes and shores ; frequent. Aug.-Oct.

Specimens on the Inlet Marshes, often with slenderer leaves than in the type.

763. **P. hydropiperoides**, Michx. WATER-PEPPER. (H. and C.)

Marshes and muddy banks ; infrequent. Aug.–Oct.

Marshes near head of the lake, (by Cayuga St.) Along Fall Cr. between Forest Home and Etna. Summit Marsh. Our specimens have the "oblong" leaves so far as noticed.

764. **P. amphibium**, L. (the typical form of Gray's Man.,) (H. and C.)

Aquatic; not common. July–Sept.

Dryden L. Marl Ponds. Summit Marsh. Danby, in Jenning's Pond. Cayuga and Montezuma Marshes.

765. **P. Muhlenbergii**, Watson. (*Proc. of Amer. Acad.*, XIV, p. 295, 1879.) (C. by Dr. Wright.)

Gravelly banks and shores ; frequent. Sept.-Oct.

By the old R. R. track near the light-house and shore at the head of Cayuga L., where it was first noticed by Dr. Gray, in 1831. Ledyard, 1827, (*Herb. J. J. Thomas.*) Near Ludlowville Sta. and north to Lake Ridge Pt., where it is abundant. Union Springs. Canoga. Summit Marsh.

"A perennial in muddy or dry places often 2°–3° feet high. Scabrous with short appressed or glandular hairs especially upon the leaves and upper stem. Leaves thin, rather broadly lanceolate or cordate at the base, 4′-7′ long, on short stout petioles (½′–1′ long) from near the base of the naked sheath. Flowers and fruit nearly as in *P. amphibium*, L. but spikes more elongated (1′–3′) often in pairs."

"New Eng.—Texas and westward. It includes most of the *P. amphibium*, var. *terrestre* of American botanists, and is the *P. amphibium*, L., var. (?) *Muhlenbergii*, *Meisn.* in DC. Prod. 14. p. 116." (See *Watson*, *l. c.*)

766. **P. Hartwrightii**, Gray. (*Proc. of Amer. Acad.* VIII, p. 294. 1870.) (C. by Dr. Wright.)

Sphagnum swamps and sedgy marshes ; frequent. Aug.-Sept.

Round Marshes. Near pond S. E. of Chicago Sta. Locke Pond. Summit Marsh. Newton's Pond, W. Junius. "Penn Yan," (*Dr. S. Hart Wright*, who called Dr. Gray's attention to the species.)

"Strigose-hirsute or smoothish, stem less than a foot high, erect, striate, equally leafy even to the top; leaves broadly lanceolate, acute or obtusish at each end, short-petioled. Ochræ leaf-like to the middle, hypocrateriform, limb foliacious, reticulate, repand, setose-ciliate. Peduncle erect not glandulose, bearing mostly a solitary, dense, cylindrical spike ; bracts surpassing the pedicels ; perigonium rose-colored without glands. Stamens 5. Style deeply 2-cleft. Sedgy bogs, N. Y. to Michigan and Wyoming." (*Gray*, *l. c.*) Dr. Wright thinks its affinities are with *P. amphibium*, L. instead of *P. Careyi*, *Olney*.

767. P. Virginianum, L. (H. and C.)
Shaded soil; not common. Aug.–Sept.
"Lake Marshes" (*Kellermann*, 1873.) probably near the Indian Spring. Near Negundo Woods. Wild bank beyond the Fleming S. H. Renwick Farm.

768. P. aviculare, L. KNOT-GRASS. (H. and C.)
Roadsides; frequent. Aug.-Oct.
A form on the sands at Sheldrake Point, has narrow glaucous leaves and large shining stipules, thus resembling *P. maritimum*, L.

769. P. erectum, L., (*P. aviculare*, L., var. *erectum*, Roth,) (H. and C.)
Roadsides, borders of rich fields; frequent. Aug.-Oct.

770. P. arifolium, L. TEAR-THUMB. (C. by Dr. Wright.)
Marshes; infrequent. Aug.-Sept.
Marshes near Inlet and Fall Cr. Ledyard, 1827, (*Herb. J. J. Thomas.*) Ringwood. Near Freeville. Summit Marsh. Cayuga Marshes.

771. P. sagittatum, L. TEAR-THUMB. (H. and C.)
Low grounds; abund., especially on the Inlet Marshes. Aug.-Sept.

772. P. CONVOLVULUS, L. BLACK-BINDWEED. (H. and C.)
Cultivated ground; common. Aug.-Oct.

773. P. dumetorum, L. CLIMBING-BUCKWHEAT.
Marshes and river-banks; frequent. Aug.-Sept.

774. P. dumetorum, L. var. scandens, Gray, is also frequent. (C. by Dr. Wright.)

FAGOPYRUM, Tourn.

F. ESCULENTUM, Mœnch. BUCKWHEAT. (H. and C.)
Fields and copses; doubtfully permanent in any place. June–July.
Fall Cr. Abund. in a piece of woods E. of McLean, 1884 and 1885.

## ARISTOLOCHIACEÆ.

316. ASARUM, Tourn.

775. *A. Canadense, L. WILD GINGER. (H. and C.)
Rich soil, woods, and banks of ravines; frequent. Apr.-May.

317. ARISTOLOCHIA, Tourn.

776. A. CLEMATITIS, L.
Union Springs, on a bank S. E. of the depot. June.
The plants have probably escaped from some garden, formerly near the locality. First seen in 1874. They have now doubled the area occupied then, spreading from the root and forming a dense vigorous growth. Fruit occurs rarely.

## PIPERACEÆ. (including SAURURACEÆ.)

318. SAURURUS, Linn.

777. S. cernuus, L. LIZARD'S-TAIL. (H. and C.)
Wet borders of marshes; local but not rare. July–Aug.

Indian Spring Marsh. Dryden L. valley. Locke Pond. Abundant on the borders of Cayuga and Montezuma Marshes.

## LAURACEÆ.

### 319. SASSAFRAS, Nees.

778. * **S. officinale**, Nees. SASSAFRAS. (H. and C.)
Woods, chiefly on the hills ; frequent. May.
In or near all our ravines, but usually small. A large tree grows beyond the Fleming S. H. and middle-sized ones near upper part of Geer's Gulf. Frequent on Eagle Hill, in Dart Woods, Turkey Hill Woods, and woods on the hills of Caroline and Danby.

### 320. LINDERA, Thunberg.

779. * **L. Benzoin**, Meisner. SPICE-BUSH. (H. and C.)
Low grounds ; common. Apr. 20–May 10.

## THYMELACEÆ.

### 321. DIRCA, Linn.

780. * **D. palustris**, L. LEATHERWOOD. MOOSE-WOOD. (H. and C.)
Rich woods ; infrequent. Apr. 20–May 10.
Casc. Creek. Six Mile Creek on Beechwood Flats. Dryden-Lansing Swamp. Round-Marsh Woods. Swamps of Groton. North of Cayuta L.

### 322. DAPHNE, Linn.

781. D. MEZEREUM, L. The MEZEREUM was detected growing spontaneously by the road from Trumansburg to Taughannock, 1884 (*A. L. Coville.*) Also a single shrub on the east shore of Cayuta L. 1885. (*F. V. Coville.*) Hillside near Groton, 1886, (*W. Morton.*)

## ELÆAGNACEÆ.

### 323. SHEPHERDIA, Nutt.

782. **S. Canadensis**, Nutt. SHEPHERDIA. (H. and C.)
Cliffs and rocky slopes, where it is frequent. May 1–15.
Rare in Casc. Cr. in Six Mile below Well Falls ; in Fall Creek below Mirror and Ithaca Falls. Common on E. shore of Cayuga Lake ; less common on west shore ; Taughannock and elsewhere.

## SANTALACEÆ.

### 324. COMANDRA, Nutt.

783. * **C. umbellata**, Nutt. COMANDRA. (H. and C.)
Dry woods with low *Vacciniums* and *Ceanothus ;* common. May 10–June.

## EUPHORBIACEÆ.

### 325. EUPHORBIA, Linn.

784. **E. maculata**, L. CREEPING SPURGE. (C.)
Fields and roadsides ; common. July–Oct.

785. **E. hypericifolia**, L. (C.)
Fields in dry soil ; frequent. July–Sept.

[E. PLATYPHYLLA, L. at Penn Yan. *S. Hart Wright*]

786. E. Esula, L.
Roadsides; scarce. June–July.
Groton, 1875; again, 1884.

787. E. Cyparissias, L. Cypress Spurge.
Gravelly roadsides; occasional. May–June.
Escaping from the Valley Cemetery. Near R. R. beyond Enfield Creek. On the hill beyond Enfield ravine, abundant and not near any dwelling. By R. R. east of Varna.

788. E. Peplus, L.
Scarce; streets of Ithaca; Buffalo St.; E. State Street; Aurora Street and Mill Street. Grounds of the Pres. White place.

326. Acalypha, Linn.

789. A. Virginica, L. (H. and C.)
Fields, etc; common. Aug.–Sept.

[Mercurialis annua, L., near Penn Yan. *Dr. Wright.*]

## CERATOPHYLLACEÆ.

327. Ceratophyllum, Linn.

790. C. demersum, L. Hornwort.
Aquatic; frequent in all ponds and lakes, but not fruiting.

## CALLITRICHACEÆ.

328. Callitriche, Linn.

791. C. verna, L. Water-starwort. (H. and C.)
Ditches and shallow water; frequent. Blooms all the year.

792. C. heterophylla, Pursh. Water-starwort.
Muddy places and shallow water; frequent. All the year.
*Forma brevifolia*, and *forma linearis* are both common.

## URTICACEÆ.

329. Ulmus, Linn.

793. *U. fulva, Michx. Slippery Elm. (H. and C.)
Rocky banks and ravines; frequent. April 20–May 10.
The Campus Brook. Fall Cr., north side. Six Mile Creek, below the mill and elsewhere.

794. *U. Americana, L. White Elm. (H. and C.)
Rich soil or low grounds; common. Apr. 15–30.
The beautiful form, with slender pendulous branches is frequent, especially along Cayuga Lake; a fine example near Taughannock landing; also near Kidder's Ferry and north; at Indian Falls, Ludlowville. The "Big Elm" at the Elm Tree tavern in McLean is of this form. Old first-growth trees of this form, growing along the borders of swampy woods in Groton, Genoa, and Dryden, exhibit peculiarities of their own; the trunk being usually very tall and straight, with a crown of short, stout, angular branches, and long, pendulous, ultimate branchlets at the summit, clusters of the slender branches of recent growth hanging from sides of the main trunk at intervals. They form the most striking feature in a distant view of these woods.

795. **U. racemosa**, D. Thomas. CORKY ELM. (C.)
Declivities and shores; also low, rich woods; frequent. May 1–10.
Six Mile Creek, and many of our ravines, especially on sunny slopes. Cayuga L. shore. South of Danby village. Dryden. Conspicuous east of McLean, as tall trees with short branches, thus presenting a columnar aspect. At McLean R. R. Sta. is a large tree of this species; and a remarkable specimen is on the alluvial soil west of Larch Meadow. The latter is fifteen to twenty meters tall; its trunk in descending, forking about a meter and a quarter above the ground, the two divisions entering the ground over a meter apart. These divisions are much flattened, and from one-half to three-quarters of a meter in the greatest diameter.

330. CELTIS, Tourn.

796. **C. occidentalis**, L. HACKBERRY. (C.)
Declivities and bottom lands; infrequent. Apr. 25–May 15.
Fall Breek, below Ithaca Fall. Renwick-Farm slope, and near Pleasant Grove Brook. Negundo Woods and lane west. Neguæna Creek. W. Hill.

331. MORUS, Tourn.

797. * **M. rubra**, L. RED MULBERRY. (H. and C.)
Ravines and hillslopes; not rare. June.
By road Fall Cr. to the "Nook." Renwick Farm. Below Green-Tree Falls. Cayuga Lake ravines; as Salmon Cr., Franklin's, Big Gully, etc. In Danby and Enfield. Not seen in the low woods of Dryden.

798. M. ALBA, L. WHITE MULBERRY. (H. and C.)
Ravines and hillslopes; scarce. June.
Casc. Creek, below Glen Pond. Six Mile Creek, near D. L. & W. railroad, and near the Ferris Brook. Near road beyond the "Nook." North of Taughannock ravine and elsewhere.

332. URTICA, Tourn. NETTLE.

799. **U. gracilis**, Ait. (H. and C.)
Low grounds and waste places; common. July–Aug.

800. * U. DIOICA, L. (H. and C.)
Rich shaded soil; not common. Aug.
Negundo Woods. Near road to Buttermilk Falls.

333. LAPORTEA, Gaudichaud.

801. **L. Canadensis**, Gaud. WOOD NETTLE. (H. and C.)
Rich woods; frequent. July–Aug.

334. PILEA, Lindl.

802. **P. pumila**, Gray. RICH-WEED. (H. and C.)
Moist shaded soil; common. July–Sept.

335. BŒHMERIA, Jacq.

803. **B. cylindrica**, Willd. FALSE NETTLE. (H. and C.)
Shaded soil. Frequent, especially on the marshes. July–Sept.

336. PARIETARIA, Tourn.

804. **P. Pennsylvanica**, Muhl. PELLITORY.
Dry places beneath cliffs, where it is frequent. June–Aug.

Occurs in all our ravines, and near the cliffs of the lake shore. "Ithaca," (*Herb. Sartwell.*)

337. CANNABIS, Tourn.

805. C. SATIVA, L. HEMP. (H. and C.)

Rich, waste soil; scarce. July–Aug.

Near Cascadilla Place. Six Mile Creek, near Ithaca. Forest Home.

338. HUMULUS, Linn.

806. H. Lupulus, L. HOP. (H. and C.)

Along banks of streams, and in swamps; scarce. July.

Island in Beebe Pond. Near mouth of Coy Glen. Near Fall Creek, east of Freeville. Round Marsh and several places in the interior of Beaver Creek Swamp, where it is manifestly native.

## PLATANACEÆ.

339. PLATANUS, Linn.

807. * P. occidentalis, L. BUTTONWOOD. SYCAMORE. (H. and C.)

Woods, especially in alluvial soil; frequent. June.

Along Cascadilla and other creeks. These trees—some of them of great size—formerly gave to Negundo Woods the aspect of the western bottom-land woods.

## JUGLANDACEÆ.

340. JUGLANS, Linn.

808. * J. cinerea, L. BUTTERNUT. (H. and C.)

Ravines and rich uplands; frequent. May 15–30.

809. *J. NIGRA, L. BLACK WALNUT. (H. and C.)

Roadsides, fields; rarely in ravines; scarce. May 15–30.

Scattered trees have been observed in about a dozen localities within limits, but in none is the species clearly indigenous except possibly a station along a creek in Fayette. The tree nearest the Campus is on Factory street.

341. CARYA, Nutt.

810. * C. alba, Nutt. SHAGBARK-HICKORY. (H. and C.)

Woods and slopes; common. May 15–June 10.

Campus, northwest of the chapel, and west of the Engineering Building; and elsewhere, in woods.

811. C. microcarpa, Nutt. WHITE HICKORY. (Dr. Wright in C.)

Hillsides; not uncommon. May 15–June 10.

Frequent on the Campus, (excellent examples in front of Dr. Law's residence.) Cayuga L. west shore, in Stevens' woods; also near Crobar Point and in Wayne's Woods near Canoga. Woods near Eagle Hill and Snyder Hill.

This species is reduced to *C. alba, Nutt*, by some. In this region it is clearly distinct from that species; its affinities being with *C. tomentosa*, Nutt., and *C. porcina*, Nutt. It also agrees clearly with a large series of specimens of *C. microcarpa*, at the U. S. G. Herb. at Washington, received from different parts of the Union, and is not essentially different from Nuttall's figure and description. I retain it as a distinct species, because its suppression would be confusing to any student of our local plants.

812. C. sulcata, Nutt. WESTERN SHAGBARK-HICKORY.
Low bottom-lands, or borders of marshes; scarce. June 1–15.
Borders of Cayuga Marshes, west of Cayuga Bridge, (a few trees.) Occasional in low woods in Junius. (Mr. Hankenson sends me specimens apparently of the same form, from borders of streams near Lyons and Newark, Wayne Co.) All the foregoing are not strikingly different from *C. alba*, *Nutt.*, at first glance, but are undeniably *C. sulcata*. More striking specimens—differing in some respects from the type—are those in the alluvial swamp, east side, and not far from the mouth of Owasco L. inlet. These were the earliest noticed—(July, 1881.) *C. sulcata*, Nutt., has not been credited to N. Y. hitherto, although Dr. Torrey in the N. Y. Flora, II., says: "it is probable that *Carya sulcata* is a native of N. Y., although I have not found it within the limits of the state." The habitat; the very shaggy bark; the 7 hairy leaflets on the ordinary branches and 9 leaflets on young shoots; the winter buds—approaching *C. alba;* the bark of twigs—light-colored and less firm and tough, than *C. alba;* the exocarp, oblong and of light, porous character always different from *C. alba;* the thick-walled rather large, coffee-colored nut, are the most important characters distinguishing this species. The attention of local collectors in Central N. Y. being called to this form, probably it will be found not uncommon. Prof. Sargent writes that there is a large and valuable nut sometimes sold in the markets in the "Genessee country" under the name of "*King Nut*," which may belong to this species. It would be interesting to know what it is, and how widely the name prevails.

813. C. porcina, Nutt. PIGNUT HICKORY. (C.)
Upland woods and dry banks; common. May 15–June 10.
Especially abundant near the shore of Cayuga L., in woods.

814. *C. amara, Nutt. BITTERNUT HICKORY. (H. and C.)
Ravines, and rich soil; frequent. June.
Near Renwick. Banks of Six Mile Creek ravine. Woods and banks near Freeville and McLean. Cayuga L. ravines; at Crobar Pt., Paine's Creek, Aurora, and near Levanna and elsewhere.

## MYRICACEÆ.

342. MYRICA, Linn.

815. M. Comptonia, C. DC. (*Comptonia asplenifolia*, Ait.) SWEET-FERN. (H. and C.)
Gravelly soil on the higher hills; not common. Apr. 20–May.
Hills on both sides of White Church valley. Danby, on Ball Hill and ridges east of W. Danby. High hills south of Saxon Hill.

816. M. Gale, L. SWEET GALE.
Cold sphagnum swamps; rare. Apr., May.
Locke Pond, above and below the bridge, (Savannah, N. Y., *Sartwell, H. and C.*)

817. M. cerifera, L. BAYBERRY. Junius, in the sphagnum about Newton's and Lowery's Ponds. "Junius," (*Herb. Sartwell.*)

## BETULACEÆ.

### 343. BETULA, Tourn.

818. **B. lenta**, L. BLACK BIRCH. SWEET BIRCH. (H. and C.)
Woods and ravines; frequent. May 10–25.

819. **B. lutea**, Michx. YELLOW BIRCH. (H. and C.)
Ravines and swampy woods; frequent. May 10–25.
[*B. alba, var. populifolia*, *Sp.* and *B. papyracea*, *Ait* are in Sart-Well's Cat. of 1844; "probably from Wayne Co.," *Wright.*]

### 344. ALNUS, Tourn.

820. **A. incana**, Willd. SPECKLED ALDER.
Swamps and near streams; the common alder. Mar. 20–April.

821. **A. serrulata**, Willd. SMOOTH ALDER. (H. and C.)
Shores; scarce, always in vicinity of Cayuga L. Mar. 20–April.
Indian Spring Marsh, and marsh along north end of Cayuga St. Banks of Inlet, and near Light-house. South of Ludlowville Sta. Crobar Pt. Lockwood's Flats. More or less abundant west side of Cayuga Marshes.

## CUPULIFERÆ.

### 345. CORYLUS, Tourn.

822. **C. Americana**, Walt. AMERICAN HAZEL-NUT. (H. and C.)
Hillsides and by streams; frequent. Mar. 20–April.
Chiefly in the Neguæna valley; along the creek near the McGraw barns. On Larch Meadow; near Coy Glen and the Valley Cemetery. Casc. ravine, north side, also south of Eddy Dam, above the path.

823. **C. rostrata**, Ait. BEAKED HAZEL-NUT. (H. and C.)
Hillslopes and ravines; rather common. Mar. 20–Apr.
Found in or near all our ravines, in copses near the lake, and on the hills in Danby and Caroline as well as in the lower valleys.

### 346. OSTRYA, Micheli.

824. **O. Virginica**, Willd. IRON-WOOD. DEER-WOOD. (H. and C.)
Woods and ravines; common. Apr. 25–May 15.

### 347. CARPINUS, Linn.

825. **C. Caroliniana**, Walt. (*C. Americana*, Michx.) BLUE BEECH. (H. and C.)
Swampy woods and ravines; common. May 1–20.

### 348. QUERCUS, Linn.

826. ***Q. alba**, L. WHITE OAK. (H. and C.)
Woods; common. May 25–June 10.

827. **Q. macrocarpa**, Michx. BUR-OAK. (H. and C.)
Low grounds and sunny banks of ravines; infrequent. May 25–June 5.
Near Renwick. Below Buttermilk Falls. Summit Marsh. North of Freeville. Cayuga Marshes and elsewhere.
A form with shallow, flat acorn-cups occurs on Lake Ridge Point.

828. **Q. bicolor**, Willd. SWAMP WHITE-OAK. (H. and C.)
Low grounds; frequent. May 25–June 5.

Field south of Indian Spring Marsh, and scattered over the Ithaca plain. Occasional in the low woods throughout our territory and extending to Cayuga and Montezuma Marshes.

829. *Q. Prinus, L. ROCK-OAK. CHESTNUT-OAK. (H. and C.)
Chiefly on banks of ravines and dry hills; frequent. May 15–30.
Most of our specimens have the large nuts, with turbinate cups, and leaves usually broad. Forms with narrow leaves and small nuts occur at White Church, Fall Cr., Snyder Hill and elsewhere. A form at White Church has nuts small borne on peduncles 2–3 cm. long.

830. Q. prinoides, Willd. (*Q. pumila*, Michx.; *Q. Prinus*, L., *var. humilis*, Marsh.) 1. This, the dwarf form, occurs very sparingly along the east shore of the lake, north of the High Cliffs between King's Ferry and Willet's. (Penn Yan, *Herb. Sartwell.*)

831. 2. The arboreal form, (*Q. Prinus*, L., *var. acuminata*, Michx.; *Q. Muhlenbergii*, Engelm; *Q. Castanea* Muhl.,) is also rare, on limestone or in its vicinity. May 20–June 1.

On first ledge of Tully limestone, south of Shurger's Glen, a few trees. Big Gully, in ravine above the crossing of the second road from the lake, a considerable number of small or middle sized trees. Our trees have the characteristic bark, leaf and nut of this species. I follow Prof'r Sargent in joining these two seemingly distinct forms, as he has had a wide range of specimens and observations on which to base his judgment.

832. Q. coccinea, Wang. SCARLET OAK. (H. and C.)
Dry hills; infrequent. May 15–25.
Frequent on the campus, (good examples at the north entrance.) Sparingly at Six Mile Creek Narrows, and near S. S. 420, on South Hill. North of Salmon Creek, and of Lake Ridge, otherwise scarce near the lake shore. Woods N. W. of Pleasant Grove Cemetery. Near Junius Ponds.

833. Q. tinctoria, Bartram. (*Q. coccinea*, Wang., var. *tinctoria*, Gr.) YELLOW OAK. (H. and C.)
Woods, especially on hills; common. May 15–20.

834. Q. rubra, L. RED OAK. (H. and C.)
The common oak of the drier woods and lake shore. May 15–25.
A good example occurs by the Campus Brook, at the Sage Coll. bridge. The leaves of this oak often change to a fine bronze and brownish scarlet, as well as yellow, in the Autumn. Apparent hybrids with *Q. coccinea* occur on the Fiske-McGraw grounds.

349. CASTANEA, Tourn.

835. C. vulgaris, Lam., var. Americana, A. DC. (*C. vesca*, L., var. *Americana*, Michx., Man., p. 455.) CHESTNUT. (H. and C.)
Woods and banks of all the ravines. July 10–20.
Especially abundant in Dart Woods, woods from Turkey Hill to Ringwood; and on the hills about White Church.

350. FAGUS, Tourn.

836. *F. ferruginea, Ait. BEECH. (H. and C.)
Woods and ravines; common. May 25–June 10.

According to Mr. Lewis of W. Hill, "Red Beech" is the form growing in drier soil and somewhat dwarfed; "White Beech," the form—larger, and of more rapid growth—occurring in richer soil.

## SALICACEÆ.

### 351. Salix, Tourn. Willow. Osier.

837. **S. nigra**, Marshall. Black Willow. (H. and C.)

Along streams and low shores; common. Flowers May 20–June 1.

Casc. Cr. Especially abundant Six Mile Cr. and Neguæna Cr. and at the head of Cayuga Lake, where it grows in great masses. Its slender bright, green leaves, borne in great abundance help to relieve the flat, shore lines more than any other willow. A form with thick, elliptical leaves more woolly on the petiole and branchlets is found near Canoga and elsewhere. The form known as var. *falcata* is occasional.

838. **S. amygdaloides**, Andersson. (*Salices Boreali-Americanæ*, in *Proc. Amer. Acad. of Arts and Sci.*, Vol. IV.) (*S. nigra*, Marsh. var. *amygdaloides*, Anderss. *Mon. Sal.* p. 21.) Peach Willow.

"Leaves broadly lanceolate, 3′–6′ long, ½–1½′ wide, with a long, tapering point, glaucous beneath, closely serrate, petioles long and slender, stipules minute and very early deciduous. Aments, leafy peduncled, elongated-cylindrical, pendulous; the fertile, when in fruit, lax, 3′–4′ long, ½′ thick; scales in the male ament ovate, villous with crisp hairs, in the female narrower, somewhat smooth, fugacious: Capsules globose-conical, glabrous, long-pedicelled; Style very short or obsolete; stigmas notched," (*Bebb, in the Botany of the Wheeler Survey, West of the 100th Meridian*, p. 240.) Andersson says the flowers are triandrous, but ours usually have 5 or 6 stamens. The older trees attain a height of 9–12 meters and the bark resembles that of *S. nigra*, but the large lanceolate leaves, whitish below, and the reddish young shoots give it an entirely different aspect. From form of leaf and color of twig it is well-named the "Peach-leaved Willow." Its twigs are somewhat tough at the base while those of *S. nigra* disarticulate very readily. Professor Sargent in "*Forest Trees of Nor. Amer.*," (*Census Rep.*, Vol. IX. 1880,) gives the eastern limits of distribution, as Wayne Co., N. Y. We have observed it in stations 30 or 40 miles east of this range.

Low grounds, streams and shores; abundant. Flowers May 10–30.

Casc. Cr. north of Eddy Pond. Six Mile Cr. Neguæna valley,—abund. Cayuga Lake, whole length. Cayuga Marshes. Montezuma Marshes. Near Waterloo. (Watkins, Seneca L.) Venice, west of Cascade. Scarce near Freeville and Cortland.

839. **S. lucida**, Muhl. Shining Willow. (H. and C.)

Streams and shores; frequent. May 20–30.

Casc. Cr. below Eddy Pond. Frequent along the low points of Cayuga Lake. In Cayuga Marshes. Near Freeville, McLean, Beaver Cr. Dryden Lake valley, Bear Swamp, and elsewhere.

840. **S. lucida**, Muhl. var. ——— with beautiful shining, coriaceous, very finely serrate leaves, larger, light-brown pods, and flowers and fruits very much later than in the type, occurs in the Round-Marshes. I have also collected it in Bergen Swamp, N. Y., from

which place Mr. Bebb has received it, as well as sparingly from N. J., Ohio, and Mich. Flowers from June 10–30 and matures fruits slowly, the writer obtaining pods still in excellent condition, Sept. 9. 1880.

841. S. FRAGILIS, L. BRITTLE WILLOW. (H.)

Form, (cultivated) ; "near true *S. fragilis*," according to Mr. Bebb. May 10–20.

Planted near the south barn on Univ. Farm. Near Hibbards Corners. Near Fleming S. H. King's Ferry Sta. Atwater's Sta., etc. This form is not pure *S. fragilis*, L. but probably the result of a crossing several times over with already mixed forms of *S. alba*, L. in which result *S. fragilis*, L. decidedly predominates. It is extensively propagated from cuttings and planted as a wind-break—passing under the name of "Black Willow." Specimens which cannot be clearly distinguished from the cultivated are found on Fall Cr. Marsh, on Myers Pt. and elsewhere growing spontaneously.

842. **S. fragilis, L. × S. alba, L.**

Spontaneous forms with yellowish twigs from Negundo Woods and by the R. R. near the woods ; also by the R. R. east of Freeville and east of McLean ; Cayuga Lake shore at Taughannock, on Myer's Point, Lockwoods Flats and elsewhere, are here included, and are pretty clearly hybrids between the above so-called species, having characteristic traces of their flowers and leaves.

843. * S. ALBA, L. var. VITELLINA, Koch.— (? form. Probably a hybrid derived from the true var. *vitellina*, Koch. and *S. fragilis*, L. Its branchlets are usually yellow.) YELLOW WILLOW. (H. and C.)

Planted to protect creek and R. R. embankments. May 10–20.

Willow Pond. Willow Ave. Ithaca along Six Mile Creek, and elsewhere. Also frequently wild along streams and shores. Always pistillate. The hybrids mentioned above, between *S. fragilis* and *S. alba* are no doubt derived on the *S. alba* side from the present form, which has been long in cultivation ; but the history and origin of the American hybrids, between these two species, are admitted by the best authorities to be involved in the greatest obscurity.

844. **S. alba, L. var. vitellina, Koch, × S. lucida, Muhl,** (probably.)

Neguæna Creek ; marshes north of Ithaca, along the Cayuga So. R. R.; and Cayuga L. to Union Springs ; not uncommon. May 10–20.

An arborescent form of luxuriant growth, sometimes its trunk and branches are quite yellow, sometimes gray-green. Its wood is everywhere brittle. Both staminate and pistillate plants occur ; and when in flower, the former are as striking as the best marked species of willow. Catkins are very abundant, bright yellow, 6–7 cm. long, and fill the air with their peculiar balsamic fragrance. The stamens,—usually 4–5 in each flower,—leaves and stipules suggest *S. lucida*, while the long catkins, color of twigs in many, and the habit of the plant, are like *S. alba–vitellina*. (Also grows in Wayne Co., N. Y., *E. L. Hankenson*.)

S. ALBA, L. var ARGENTEA, —— distinguished by its silky-canescent leaves and young twigs ; and S. ALBA, L. var. VITELLINA, Koch, are

in cultivation on the Fiske-McGraw grounds. Cuttings of these and S. ALBA, L. (*pura*,) have been transferred to Cascadilla Cr. and Woods.

Several other forms, each with peculiar characteristics, are found in different places, chiefly near the lake. These appear to be hybrids derived from the *fragiles* group, (with the influence of the *nigræ* group apparent in some,) but their exact position cannot be determined at present.

845. * S. BABYLONICA, Tourn. WEEPING WILLOW. (H).

Planted, and rarely escaping along the lake, (probably from windfall twigs) as at Myers Point. May 10–20.

846. **S. longifolia**, Muhl. LONG-LEAVED WILLOW.

Sandy and rocky shores; not common. May 15–June 10.

Fall Cr. below Island Fall, (*Miss I. S. Arnold.*)! North of Esty Glen. Myers Pt. and near Ludlowville Sta. Lake Ridge Point. In several places between King's Ferry and Lake Ridge. Mouth of Paine's Creek. Lockwood's Flats. Farley's Point. Canoga. Often blooming in Aug. on the lake-shore, where the twigs are badly distorted by a fusiform insect-gall.

847. **S. discolor**, Muhl. GLAUCOUS WILLOW. (H. and C.)

Wet places, or even rocky banks; common. Apr. 15–30.

The earliest willow to bloom, and one of the most variable. Anthers sometimes salmon-pink, sometimes wholly or partially transformed into ovaries. Young catkins sometimes 10–12 cm. long and cylindrical, while in specimens on Summit Marsh, they are 1½ cm. and globular. The latter specimens are peculiar in their yellow-brown bud scales, coriaceous, shining, almost cuspidate leaves, and dwarf stems.

848. **S. rostrata**, Richardson. (*S. livida*, Wahl. *var. occidentalis*, Gr., Man., p. 464.)

Ravines, lake-shore and marshes; frequent. Apr. 20–May 10; or later in sphagnum marshes, and rarely a second time, in Aug.

It occasionally becomes a low tree 15–25 cm. in diameter. Bulbous insect-galls in the twigs are frequent.

S. CAPREA, L. (*forma pendula*) characterized by its umbrella-like mass of drooping branches, and its broad, woolly leaves, is frequently planted in town, and is allied to the preceding species.

849. **S. myrtilloides**, L. MYRTLE WILLOW.

Sphagnum swamps; rare. May 20–30.

Freeville, north of the village, only the pistillate plants. "Lodi Seneca Co., *Dr. Folwell*" (See *Flora of N. Y.* II p. 213.) Junius Seneca Co. (*Sartwell H. and C.*)

850. **S. petiolaris**, Smith. (H. and C.)

Low grounds and marshes; frequent. Apr. 25–May 15.

Fall Cr. on the Circus Common, and in the Marsh. Lake Ridge Point. Cayuga Marshes, abundant. Summit Marsh, a dwarf form with short catkins. This species, especially the staminate plant, before the leaves appear, is difficult to distinguish from *S. sericea*, Marsh. The writer has found without exception in testing a large

number of cases, that the twigs do not disarticulate at the base, i. e., they are "tough," while the twigs of *S. sericea* have long been known to be "brittle," (See *Marshall, Arbustum Amer.* 1785, p. 140; and *Pursh, Flora Amer. Sept.* 1814, II, p. 616.)

851. **S. sericea**, Marshall. SILKY WILLOW. (H. and C.)

Low grounds; common. Apr. 20–May 10.

Casc. Cr. below Eddy Pond. Fall Cr. and the borders of the lake-marshes. Abund. at Freeville, Round Marshes, Beaver Cr. and elsewhere. Dwarf forms with beautifully silky leaves at Summit Marsh. The fusiform galls on the twigs very abundant and broader than in *S. longifolia*.

852. **S. humilis**, Marshall, LOW WILLOW. (H. and C.)

Woods along the glens, and frequent on the tops of the highest hills. Apr. 15–30.

Casc. Woods. Fall Cr. Coy Glen. South Hill. High hills of Dryden, Caroline, Danby and Newfield. The delicate pink of the young anthers is very characteristic.

853. **S. cordata**, Muhl. HEART-LEAVED WILLOW. (H. and C.)

Low grounds and shores; common. Apr. 20–May 10.

Variable in the appearance of pistillate catkin and scales, and in leaf; also hybridizing freely. This species, *S. humilis* and *S. discolor* often produce galls in the form of cones at the ends of the branches.

854. **S. cordata**, Muhl. × **S. sericea**, Marsh. (*S. myricoides, Muhl;*—*Salix cordata*, var. *myricoides*, of Gray's Man., p. 464, probably.) Fall Cr. on the Circus Common. Near the head of the lake. By the R. R. south of Ithaca, and elsewhere; frequent.

855. **S. cordata**, Muhl. × **S. petiolaris**, Marsh.

West Danby valley. Certain forms from the Fall Creek Common also seem to belong here.

856. **S. candida**, Willd. HOARY WILLOW. (H. and C.)

Sphagnum marshes or cold swamps; rare. Apr. 25–May 10.

Fleming Meadow. Locke Pond. Junius, (*Sartwell H. and C.*)! near Newton's and Lowery's Ponds. Larch Swamp, S. W. of Savannah, N. Y.

857. **S. incana**, Schrank. × **S. cordata**, Muhl. ? nov. hyb.

One cluster, spontaneous, on East hill, opposite residence of B. G. Jayne. April 25–May 10.

Detected, 1884; flowers collected May 2, 1885.

*Stem*, shrubby, dark, reddish-brown, branchlets somewhat woolly-canescent, not disarticulating at the base. Buds oblong, brown or reddish brown, outer scales of the flowering buds separating into parallel plates as in *S. cordata*, Muhl, and *S. candida*, Willd. *Leaves* linear-lanceolate, numerous, 3–8 cm. long, 4–6 mm. broad in the middle, tapering to a rather acuminate apex, and below into short petiole, margin sharply and regularly glandular-serrulate, at first white tomentose all over, soon nearly smooth and rather dark green above, glaucous and more or less tomentose below. The

foliage altogether of a gray or silver-green aspect, and does not blacken in drying. *Stipules* narrowly lanceolate or almost setaceous, somewhat glandular-denticulate when young. *Catkins*—pistillate, 2–3 cm. long, (or 3–4 cm. when mature,) slender compact, erect, resembling *S. incana*, Schrank; abundantly leafy bracted at the base, bracts inclining to be abruptly acute, mucronate or obtuse, even in the mature state. *Ovaries* stalked, glabrous, lanceolate, style slender, stigmas deeply bifid, each branch with two, rarely three, oblong lobes, scale oblong, ⅔ the length of the ovary, smooth on the back but ciliate with numerous long white hairs, whitish or purplish tipped when young, inclining to be acute, especially in the lower part of the catkin. Mature seeds very few.

*S. incana*, Schrank., a willow from the Alps and Pyrenees, is in cultivation on the grounds of B. G. Jayne; also of J. D. Carpenter, Buffalo St. Both trees are pistillate. It was clear by comparison, that our hybrid was allied to *S. incana*, and in spite of the presence of occasional stipules I referred the former to the latter as an introduced *variety* of it. Referring the plant to Mr. Bebb, as a final authority, he replied that it was a *hybrid*, of somewhat surprising character. He says: "it cannot have been introduced. There is nothing like it in the European Flora." "It is indeed clearly allied to *S. incana* and just as clearly not *S. incana*. * * * The departure from *S. incana* is wholly in the direction of American and not European forms." He thinks it clearly a hybrid between *S. incana*, Schrank, on one hand, and probably *S. cordata*, Muhl., on the other, (or possibly *S. petiolaris*, Sm.;) although, in the absence of experiment, he does not wish to pronounce finally. He found pistils of *S. incana*, (which I collected here, 1881,) to have been *fertilized*, probably by some American willow, as staminate *S. incana* is not cultivated in this region. Comparing the hybrid with the parent it differs from *S. incana*; in branchlets tough near the base; leaves and leafy bracts more abundant at flowering time, shorter more tapering and less woolly beneath when mature, sharply glandular serrate and margins scarcely revolute. (*S. incana* has long, linear, slightly denticulate leaves, woolly beneath with margins revolute;) stipules present, ovary somewhat longer-stalked; style longer and slenderer; stigmas 4 or 5 (instead of 2 or 3) and shorter lobed; scale elliptic and inclined to be acute (instead of truncate) ciliate with longer, more abundant white hairs. (*S. incana* hybridizes freely with Eur. Willows. (See *And. in DC. Prod.*, XVI, (2) p. 302-305.) It has no near relatives indigenous to the American continent.

858. S. PURPUREA L. PURPLE WILLOW.

Introduced and frequent along the lake-shore. Apr. 20–May 10.

Staminate plants occur near the light-house at the Inlet, at King's Ferry, Aurora, Union Springs, on the Pearson estate by Neguæna Cr. (formerly cultivated there,) near Mud Cr., and Beaver Cr. in Dryden, and in Ulysses and Venice. Pistillate plants are in cultivation in Ithaca, village and cemetery.

352. POPULUS, Tourn.

859. * P. tremuloides, Michx. AMERICAN OR QUAKING-ASPEN. (H. and C.)

Banks of ravines, hillsides and hills; common. April.

860. P. grandidentata, Michx. (H. and C.)

Dry woods and hills; common, April.

861. * P. monilifera, Ait. EASTERN COTTONWOOD. NECKLACE POPLAR. (C. by Dr. Wright.)

Shores and river-banks; not uncommon, April 25–May 10.

Fall Creek, Beebe Pond and below Ithaca Fall. Casc. Creek, below the bridge. Near Six Mile Creek. Near Renwick, and frequent along Neguæna Cr., and on the shores of Cayuga Lake.

862. P. balsamifera, L. BALSAM POPLAR. (H.) Fl. May 1–10.

Bank of Taughannock ravine, on the steep, wooded slope at the top of the north bank, north of the Falls. The trees are near the great curve of the ravine bank, and are probably indigenous, resembling in habitat and appearance those seen at Niagara and elsewhere. The trees are small, seven of the larger being only 15–20 cm. in diameter, but appearing like old trees. Wild, but apparently introduced, on the high bank above the C. S. R. R., south of Willet's Sta. Cultivated trees, (staminate and pistillate) in front of Mr. Mead's, E. of Judd's Falls; in meadow near White Church Sta., and elsewhere.

863. P. BALSAMIFERA, L., var. CANDICANS, Gr. BALM OF GILEAD, (C.)

Planted occasionally. May 15–30.

On Heustis St., Ithaca. Danby. McLean. Myers Point. At Round Marshes, about the borders of Pond Meadow, are thirty or more trees from ¼ to over ¾ of a meter in diam. From their relative position it is altogether probable that they were planted next to an old ditch made many years since. But this is only evident after close inspection, as considerable undergrowth at present surrounds them. The trees are all pistillate. Young trees near, have probably sprung up from windfall twigs.

864. * P. DILATATA, Ait, LOMBARDY POPLAR. (H.)

E. of State St., opposite Spring St., Ithaca, but apparently spontaneous, (perhaps from floating twigs,) on Cayuga L. at Myer's Point, Lake Ridge Point, and near Willet's Sta. (Plants all pistillate.)

P. ALBA, L. (THE ABELE,) near the Cayuga St. bridge over Six Mile Cr., and on South Hill near the R. R., suckers freely from the spreading roots. (Plants staminate.)

P. TREMULA, L. EUR. ASPEN, is occasionally planted, on the Campus.

## MONOCOTYLEDONS.

### HYDROCHARIDACEÆ.

353. ANACHARIS, Richard.

865. A. Canadensis, Planchon. WATER SNAKE-WEED. (H. and C.)
Pools and slow-flowing streams; common. July-Aug.

354. VALLISNERIA, Micheli.

866. * V. spiralis, L. EEL-GRASS. (H. and C.)
Lakes and their inlets and outlets; common. Aug.

### ORCHIDACEÆ.

355. MICROSTYLIS, Nutt.

867. M. monophyllos, Lindl. (C. by Dr. Wright.)
In deep cold swamps, rarely in ravines; scarce. June 20–July.
Swamps near Freeville. Mud Cr. and Beaver Cr. Ellis Hollow Swamp. Spring Brook on Thacher's Pinnacle, (*O. E. Pearce.*) Cascadilla ravine, (*Mrs. C. G. Ames*, 1875; also within a few years.) Near Smith's Corner's, north of Cayuta L.

356. LIPARIS, Richard. TWAYBLADE.

868. L. liliifolia, Richard.
Near "Ovid, Seneca Co., (*Chickering and Brewer in Sart. Herb.*) a doubtful specimen.

869. L. Læselii, Richard.
Cold mossy banks, and marshes; infrequent. June 25–July.
Casc. Creek. Marsh between Fall Cr. and the lake. Freeville, (*F. C. Curtice.*) Springs near Mud Creek. Ringwood. Summit Marsh. Cayuga and Montezuma Marshes.

357. APLECTRUM. Nutt.

870. * A. hyemale, Nutt. PUTTY-ROOT. ADAM-AND-EVE.
Rich woods; scarce. June 1–20.
Six Mile Cr., 1872! 1879! and by O. E. Pearce in 1884. In McGowan Woods, woods W. of Etna, Negucena valley south of Larch Meadow, (*F. C. Curtice.*) South of the Dryden-Lansing Swamp, (*F. L. Kilborne.*) Woods near Varna, (*H. L. Locke* and *C. S. Sheldon.*) Near Ludlowville, (*Mr. Lord.*) Ledyard, 1827, when it was frequent, (*Herb. J. J. Thomas.*) Ovid, N. Y., (*Chickering and Brewer, in Herb. Sartwell.*)

358. CORALLORHIZA, Haller. CORAL-ROOT.

871. C. innata, R. Br.
Deep swamps; rare. May 20–June 10.
Dryden-Lansing Swamp. Ellis Hollow Swamp. Borders of Mud Cr. Swamp.

[C. odontorhiza, Nutt. Yates Co., *S. H. Wright.*]

872. C. multiflora, Nutt. (H. and C.)
Woods; frequent. June 20–Aug.

359. SPIRANTHES, Richard. LADIES' TRESSES.

873. **S. latifolia**, Torr.

Wet places, near springs and streams; not uncommon. June.

Larch Meadow. Six Mile Creek. Casc. Cr., toward Ellis Hollow. In White Church valley. Near W. Danby, Freeville and elsewhere. Junius, (*Herb. Sartwell.*)

874. **S. Romanzoffiana**, Chamisso.

Springy, mossy places; scarce. July–Aug. 15.

Not uncommon in the vicinity of Mud Creek, Freeville. Brookton Springs. Summit Marsh, and Newton's Pond, Junius.

875. **S. cernua**, Richard.

Marshes and wet meadows; frequent. Sept.

Larch Meadow, 1878, (*Professor Trelease.*)! Fleming Meadow. Near Mud Creek. Near Beaver Cr. and Round Marsh. Dryden L. valley. White Church valley and elsewhere. Junius, (*Herb. Sartwell.*)

876. **S. gracilis**, Bigel. (**H.** and **C.**)

Dry woods, frequently with pines; frequent. July 15-Aug. 15.

Casc. Cr. woods. Fall Cr. woods and elsewhere.

360. GOODYERA, R. Br.

877. **G. repens**, R. Br. (**C.** by Dr. Wright.

In cool moist woods of Coniferæ; not rare. July 25–Aug. 25.

878. ***G. pubescens**, R. Br. RATTLESNAKE PLANTAIN. (**H.** and **C.**)

In woods, especially of Coniferæ; abundant. Aug.

In Casc. Woods. Fall Creek and elsewhere.

879. **G. Menziesii**, Lindl.

Michigan Hollow, borders of the deep swamp; not in flower but leaves and buds evidently of this species. Dr. Gray obtained it in "Western N. Y."—it is believed from Seneca Co.,—in 1831.

361. ARETHUSA, Gronov.

880. **A. bulbosa**, L. ARETHUSA.

Sphagnum bogs; rare. May 20–June 10.

Freeville bog, 1874, (*E. H. Palmer.*)! Junius, (*Sartwell H. and C.*)

362. CALOPOGON, R. Br.

881. **C. pulchellus**, R. Br. CALOPOGON. (**H.** and **C.**)

Sphagnum marshes; scarce. June 20–July 20.

Larch Meadow. Freeville. Malloryville. Round Marsh.

363. POGONIA, Juss.

882. **P. ophioglossoides**, Nutt. POGONIA. (**H.** and **C.**)

Sphagnum bogs; infrequent. June 20–July 20.

Larch Meadow. Freeville. Malloryville. Round Marsh, and bog S. E. of Chicago Sta.

883. **P. pendula**, Lindl. (**H.** and **C.**)

Rich soil; rare. Aug.

Sheldrake Point, (*Dr. A. Gray*, 1831.) (Geneva, *Dr. J. Smith in Sartw. Herb.*

884. P. verticillata, Nutt.

High hills, (in our region,) in moist woods; rare. May 20-June 15.

Caroline, in woods on top of Bald Hill, and west slope of Taft Hill. Danby, in woods on Ball Hill.

364. ORCHIS, Linn.

885. *O. spectabilis, L. SHOWY ORCHIS. (H. and C.)

Rich woods and moist banks; not uncommon. May 20–June 10.

Probably common in this region formerly, as it was in Ledyard fifty years since, according to Professor Thomas. At present it is evenly and sparingly distributed throughout our Cayuga L. basin.

365. PERULARIA, Lindl.

886. P. virescens, Gray. (*Habenaria virescens*, Spreng.)

Marshy places; not common. June 20-July 20.

Marsh between Fall Creek and Cayuga L. (*F. C. Curtice.*) Dart Woods. Open meadow, with club mosses, between Bald Hill and Taft Hill, Caroline.

366. HABENARIA, Willd., R. Br.

887. H. tridentata, Hook.

Cold swamps; rare. July 15–30.

Freeville bog, (*F. B. Hine*)! Mud Cr. swamp. Some of the Mud Cr. specimens are wholly wanting in spurs to the corolla. "Junius," (*Herb. Sartwell.*)

888. H. viridis, R. Br., var. bracteata, Reich. (H. and C.)

Ravine N. of Buttermilk Glen?

889. H. hyperborea, R. Br. (H. and C.)

Cold swamps and marshy places; frequent. June 15–Aug.

Beside the common form, which is usually out of bloom by the middle of July, there is a form in beech and maple woods, usually dwarf and blooming in the latter part of July and in Aug. Specimens of this form from McGowan Woods were destitute of spurs and the lip resembled that of *H. dilatata*, Gr.

890. H. dilatata, Gray.

Cold swamps; less frequent than the preceding. June 15–July.

891. H. Hookeri, Torr. (C. by Dr. Wright.)

Woods of mingled Coniferæ and hardwood; frequent. June–July.

Casc. Woods (*E. H. Palmer*, 1874) also 1883! University Grove formerly, (*Dr. Jordan.*) The finest specimens are in the old woods on the higher hills. A form approaching var. *oblongifolia*, occurs on Thacher's Pinnacle.

892. H. orbiculata, Torr. (H. and C.)

Deep, old woods, especially on the hills; infrequent. June 20–July 20.

It occurs in Dart Woods, Turkey Hill Woods, and Rhodes Woods; also in the extensive woods on Taft Hill, Caroline, and Ball Hill, Danby; in Signer's Woods and elsewhere.

893. H. ciliaris, R. Br. YELLOW FRINGED-ORCHIS. Junius, (*Sartwell, H. and C.*)

894. H. blephariglottis, Hook. WHITE FRINGED ORCHIS. Junius, (*Sartwell, H. and C.*)

895. H. lacera, R. Br. GREEN FRINGED ORCHIS.
Swamps and meadows; infrequent. July.
Southeast of South Hill Marsh in several places. Dryden-Lansing Swamp. Freeville bog. (*F. B. Hine*)! Lowery's Pond, Junius. "Junius" (*Sartw. H. and C.*)

896. H. psycodes, Gray. (H. and C.)
Meadows and swamps; frequent. Aug.
Larch Meadow. Buttermilk ravine. White Church and elsewhere.

897. H. fimbriata, R. Br. PURPLE FRINGED ORCHIS. (H. and C.)
Swamps where it is quite common. June–July 15.
Specimens with pure white flowers occur in Michigan Hollow Swamp.

367. CYPRIPEDIUM, Linn.

898. C. parviflorum, Salisb. SMALL YELLOW LADY-SLIPPER. (H. and C.)
Woods and swamps; not common. May 25–June.
Two-flowered specimens come from Six Mile Creek below the landslide, (*O. E. Pearce*); and from Michigan Hollow Swamp. The ordinary form in Cascadilla Woods, (*Miss Hale.*) near Freeville, Malloryville, etc.

899. * C. pubescens, Willd. LARGE YELLOW LADY-SLIPPER. (H. and C.)
Woods and swamps; frequent. May 25–June.
University Grove, formerly, (*Dr. Jordan.*) Cascadilla Woods. Abundant in the swamps of Freeville, Beaver Cr. and elsewhere. Two-flowered specimens are occasional.

900. C. spectabile, Swartz. SHOWY LADY-SLIPPER. (H. and C.)
Cold marshes or open places in deep swamps where it is frequent. June 15.–July.
Scarce in Larch Meadow, Buttermilk ravine, and Enfield ravine. Abundant along Mud Creek, in Beaver Creek Swamps and Michigan Hollow Swamp. In Wyckoff Swamp, and Malloryville Marsh. The most splendid of our native orchids, this species is seen in perfection in the half shaded sphagnum openings in the middle of thick swamps. The plants are occasionally a meter or more high.

901. * C. acaule, Ait. PINK LADY-SLIPPER. (H. and C.)
Rich woods, often from moldering trunks of fallen pines and hemlocks; frequent. June.
Rare in Casc. Woods, (*O. L. Taylor*)! and Fall Cr. Woods, but found in or near all our larger ravines, and frequent in Dart Woods, Rhodes Woods, Round-Marsh woods, and those of a similar character, throughout our territory.

## IRIDACEÆ.

368. IRIS, Linn.

902. * I. versicolor, L. BLUE-FLAG. (H. and C.)
Marshes and swamps; common. June.

903. I. PSEUDACORUS, L. YELLOW IRIS.
Established in marshy places ; scarce. June 1–20.
Marsh south of the Glass Works. (*Mr. Lord* ; *F. B. Hine*)! Between Fall Cr. and the lake, (*F. C. Curtice*)! South of Union Springs, near the R. R.

369, SISYRINCHIUM, Linn.

904. *S. anceps, Cav. (*S. Burmudiana*, L., of Man., in part.) BLUE-EYED GRASS. (H. and C.)
The typical form near Negundo Woods, Freeville, Poplar Ridge, and elsewhere. The form with leaves of spathe nearly equal and narrower, is more frequent ; Casc. Cr. (*Dr. Jordan*)! Fall Cr., Farley's Pt., Freeville, Danby, etc. May–June.

905. S. mucronatum, Michx. (*S. Bermudiana*, L., var. *mucronatum*, Man., p. 517.)
Scarce, in Ithaca Cemetery, (*Kilborne.*) !
Possibly both the above species should be united under *S. angustifolium*, Mill. (See *W. B. Hemsley*, in *Jour. of Bot.*, XXII, p. 108.

## AMARYLLIDACEÆ.

370. HYPOXYS, Linn.

906. *H. erecta, L. STAR-GRASS. (H. and C.)
Meadows and grassy slopes ; frequent. June–July.
Casc. Cr. near Eddy Pond. Fall Cr. South Hill and elsewhere.

## SMILACEÆ.

371. SMILAX, Tourn.

[*S. rotundifolia, L., is in Dr. Thompson's Cat., (probably a mistaken identification of the next.) It is in Sartwell's Cat. of 1844, but the specimen in his herbarium is from Brooklyn, N. Y.]

907. S. hispida, Muhl. GREEN-BRIER.
Woods and swamps ; frequent. June.
Casc. Woods, near the Goldwin Smith Walk. Fall Creek, and elsewhere.

908. S. herbacea, L. CARRION-FLOWER. (H. and C.)
Woods ; frequent. June.
Casc. Woods, Fall Cr., north of Beebe Pond and elsewhere.

## LILIACEÆ.

372. ALLIUM, Linn.

909. A. tricoccum, Ait. WILD LEEK. (C.)
Ravines and rich woods ; infrequent. Leaves in May, flowers in July.
Six Mile Cr. Taughannock ravine. Woods near Mud Cr. and elsewhere.

910. A. Canadense, Kalm. WILD GARLIC. (C. by Dr. Wright.)
Ravines and fields ; infrequent. May 20–June 20.
Fall Cr. on the island in Beebe Pond, (*Curtice and Kilborne*) ; below Ithaca Fall. Field near the Salt-well at Aurora and elsewhere.

ORNITHOGALUM UMBELLATUM, L. — STAR OF BETHLEHEM — was found on the island in Beebe Pond, 1880, by Mr. Curtice ; and rarely escapes to roadsides.

373. POLYGONATUM, Tourn.

911. * **P. biflorum**, Ell. SOLOMON'S SEAL. (H. and C.)
Ravines and woods ; common. May.

912. ***P. giganteum**, Dietrich. LARGER SOLOMON'S SEAL. (H. and C.)
Scarce ; in Negundo Woods and elsewhere in the valley.

374. SMILACINA, Desf.

913. ***S. racemosa**, Desf. FALSE SOLOMON'S SEAL. (H. and C.)
Ravines and woods ; common. May 20–June 20.

914. **S. stellata**, Desf. (H. and C.)
Rich woods and spring-marshes ; frequent. May.

915. **S. trifolia**, Desf. THREE-LEAVED S.
Very rare ; only in the Spruce Swamp on Enfield hill. May 20–June 20.

375. MAIANTHEMUM, Weber. TWO-LEAVED SOLOMON'S SEAL.

916. * **M. Canadense**, Desf. (*Smilacina bifolia*, var. *Canadensis*, Gr., Man., p. 530.) (H. and C.)
Ravines and woods ; very common. June.

376. ASPARAGUS, Linn.

917. A. OFFICINALIS, L. ASPARAGUS.
Slopes of hills and ravines ; frequent on the lake shore from Lake Ridge to Ludlowville Sta. June.

377. LILIUM, Tourn.

918. * **L. Philadelphicum**, L. WOOD LILY. (H. and C.)
Dry woods ; frequent, especially on the hills. July.
Fall Creek Woods. South Hill. Dart Woods. Turkey Hill Woods, and elsewhere.

919. **L. Canadense**, L. (H and C.)
Meadows and swamps ; scarce. June 20–July.
Beaver Creek and Mud Creek. Rhodes Woods. South of Ithaca.

920. * **L. superbum**, L. TURK'S-CAP LILY. (C.)
Meadows and swamps ; frequent. July.
Casc. Woods. Larch Meadow. Fall Cr. toward Freeville, etc.

378. ERYTHRONIUM, Linn.

921. * **E. Americanum**, Smith. YELLOW ADDER-TONGUE (H. and C.)
Fields and ravines ; very common. April–May 15.

379. UVULARIA, Linn. BELL-WORT.

922. * **U. perfoliata**, L. (H. and C.)
Along ravines and borders of woods ; frequent. May.

923. **U. grandiflora**, Smith. (H. and C.)
Ravines and rich woods ; common. May.

380. OAKESIA, Watson.

924. * O. sessilifolia, Wats. (*Uvularia sessilifolia*, L. Man., p. 528.) (H. and C.)

In ravines and woods; frequent. May.

381. STREPTOPUS, Michx.

925. S. roseus, Michx. TWISTED-STALK. (C.)

Ravines and swamps; abundant. May.

382. PROSARTES, D. Don.

926. P. lanuginosa, Don. PROSARTES. (H. and C.)

Rich woods; infrequent. May.

Six Mile Creek; slope near Beechwoods. McGowan Woods. Dart Woods. Turkey Hill and Rhodes Woods. Caroline, on Bald Hill and Taft Hill, and elsewhere.

383. CLINTONIA, Raf.

927. C. borealis, Raf. CLINTONIA. (H. and C.)

Cold swamps or vicinity of peat bogs; frequent. May 25–June.

Ellis Hollow Swamp. Dryden-Lansing Sw., (*Dr. Jordan*)! Abundant near Freeville, McLean and Danby.

384. MEDEOLA, Gronov.

928. M. Virginica, L. INDIAN CUCUMBER-ROOT. (H. and C.)

Rich woods; abundant. June.

385. TRILLIUM, Linn.

929. * T. erectum, Linn. BIRTHROOT. (H. and C.)

Ravines and rich soil; common. May.

The form called in Gray's Manual "*var. album*" is not uncommon in Six Mile Cr. Negundo Woods. Near Beaver Cr. and Mud Cr. A form near "*var. declinatum*" of Man. occurs in rich soil of Negundo Woods and Taughannock ravine; its flowers are usually pink, rarely nearly white. A form with perianth wholly green occurs in our woods rarely.

930. T. grandiflorum, Salisb. WHITE TRILLIUM. "WHITE LILY," (local.) (H. and C.)

Rich soil; very common. May.

Much given to monstrosities. Specimens with four leaves come from "Camp Warwick," north of King's Ferry; with 4 petals and 4 sepals from Fall Cr., (*F. B. Hine.*) A series of specimens from woods E. of Levanna show flowers with green-striped petals, and petals green except on the margin; others with stalked sepals and green petals, and with long petioled leaves from, or near the base of the stem. Double-flowered specimens from Woodwardia Swamp Woods, have about 14 parts to the perianth.

931. T. cernuum, L. NODDING TRILLIUM.

Swamps: rare. May.

Borders of the Round-Marshes! one specimen, 1884, by *F. M. Fitts*. It ought to occur in Michigan Hollow. It is in Dr. Thompson's Cat., but he probably mistook *T. grandiflorum* for it, as the latter is not mentioned.

932. * T. erythrocarpum, Michx. PAINTED TRILLIUM. (C.)
Cool woods and swamps, where it is frequent. May.
Dryden-Lansing Sw. Ellis Hollow Sw. and frequent in the swamps of Freeville, McLean, Danby, Newfield, etc.

386. VERATRUM, Tourn.

933. * V. viride, Ait. GREEN HELLEBORE. (H. and C.)
Swamps ; frequent. July.

387. CHAMÆLIRIUM, Willd.

934. C. Carolinianum, Willd. (*C. luteum*, Gray, Man., p. 527.) BLAZING STAR. (H. and C.)
Woods, especially on the higher hills ; sparingly but widely distributed. June 15–July 15.
Cascadilla and Fall Cr. Woods. Turkey Hill and elsewhere.

388. HEMEROCALLIS, Linn. DAY LILY.

935. H. FULVA, L. (July 1–15,) is established by roadsides. South of Judd's Falls, in Enfield ravine and in many places.

MUSCARI BOTRYOIDES, Mill., escapes to lawns on E. State street, Ithaca, etc.; and to roadsides near Taughannock landing, (*F. H. Severance.*)

## PONTEDERIACEÆ.

389. PONTEDERIA, Linn.

936. P. cordata, L. PICKEREL WEED.
Marshes, borders of lakes and ponds ; common. July 20–Aug.

390. SCHOLLERA, Schreber.

937. S. graminifolia, Willd. (*S. graminea*, of Man.) WATER STARGRASS.
Cayuga L., its inlets and outlet ; abundant. Aug.

## JUNCACEÆ.

391. LUZULA, DC. WOOD-RUSH.

938. L. pilosa, Willd. (H. and C.)
Woods and moist pastures ; common. April 15–May.

939. L. campestris, DC. (H. and C.)
Woods, etc. ; frequent. May.

392. JUNCUS, Linn. RUSH.

940. J. effusus, L. BULRUSH. (H. and C.)
Wet places ; common. July.

941. J. effusus, L., var. conglomeratus, Engl., occurs south side of Taughannock, and elsewhere.

942. J. marginatus, Rostkov.
Wet pastures ; scarce. Aug.
South Hill Marsh. Meadow west of Freeville.

943. J. bufonius, L. (H. and C.)
Wet shores and low places ; not uncommon. July.

944. J. Gerardi, Loisel. BLACK GRASS.
Sparingly, on the brackish marshes E. of Montezuma, north of main road. July.

945. J. tenuis, Willd. (H. and C.)
Low grounds and paths; common. July–Aug.
A slender form, with 3–8 flowers in the panicle and perianth no longer than the pod, occurs on Utt's Point, Cayuga L.

946. J. tenuis, Willd., var. ———, tall, (½-¾ meter,) with crowded, glomerate heads; occurs on the moist meadows by Marl Cr. This is probably the form referred to by Torrey in Flora of N. Y., II, p. 329, as occurring on saline soil of Long Id.

947. J. articulatus, L. (H. and Wright in C.)
Sandy, wet soil. July. On nearly all the sandy points of Cayuga L. Rarely remote from the lake.

948. J. articulatus, L., var. obtusatus, Engl. Depauperate specimens from Trumansburg Point, Utt's Point, and Marl Cr. meadows, apparently belong here.

949. J. alpinus, Villars, var. insignis, Fries. July–Aug.
Reduced forms, having the erect stems, light-brown pods, obtuse short inner sepals of that species, and without the fine scalariform wrinklings on the seeds characteristic of all our forms of *J. articulatus* L. are found on Goodwin's (Taughannock) Point, Utt's Point, and by the Indian Salt-Springs west of Cayuga Marshes.[1]

950. J. acuminatus, Michx., var. legitimus, Engl. (H.)
Wet places; not uncommon. July.

951. J. acuminatus, Michx., var. debilis. "Junius," (*Herb. Sartwell.*)

952. J. nodosus, L. (H.)
Low grounds; common. July.
Abnormal forms were collected on Farley's Point (1881) having scales only, in place of essential organs; and all the scales having undergone chorisis, the heads appear as if made up entirely of trichomes. Where the pistils are only partially transformed, ovules frequently occur along the open scales of the disjoined elements of the ovary.

["J. scirpoides, Lam.," is in Sartwell's Herb. from Penn Yan—which is probably a mistake. It occurs at Sodus Bay, (*Dr. Wright.*)]

953. J. Canadensis, J. Gay. var. longicaudatus, Engl.
Marshes. Aug.–Sept.
Summit Marsh. Locke Pond. Cayuga Marshes, and Junius Ponds.

954. J. Canadensis, J. Gay. var. brachycephalus, Engl.
Wet sandy places; infrequent. Aug.
Near W. Danby. Dryden Lake. South of Groton. Newton's Ponds, Junius.

## TYPHACEÆ.

393. Typha, Tourn.

955. T. latifolia, L. Cattail. (H. and C.)
Marshy places, often invading peat-bogs; common. June.

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[1] I have recently learned that Engelmann referred specimens like the above, and obtained from Central N. Y., to *J. alpinus, var. insignis.*

956. T. latifolia, L. var. elongata, n. var.

Leaves very numerous, dark green, elongated, (2–3½ m.) and fruiting spike elongated, often 30 cm. Occurs with the type form in large thick masses near the shore or in the water on Canoga and Cayuga Marshes and north of Hill's Branch. It is the principal form cut for chair-bottoms, and is carried away from Cayuga in considerable quantities for this purpose.

957. T. angustifolia, L. (C.)

Abundant on Cayuga and Canoga Marshes; also on west shore of the Inlet near the mouth. Near Etna.

394. SPARGANIUM, Tourn. BUR-REED.

958. *S. eurycarpum, Englm. (H. and C.)

Marshes; frequent. June.

959. S. simplex, Huds. (H. and C.)

Marshes and standing water; common. July.

960. S. simplex, Huds. var. androcladum, Gray.

Fall Creek. Summit Marsh.

## ARACEÆ.

395. ARISÆMA, Martius.

961. *A. triphyllum, Torr. INDIAN TURNIP. JACK-IN-THE-PULPIT. (H. and C.)

Ravines and wet places; frequent. May.

A specimen from woods east of Freeville has large acuminate leaflets, the lateral with large lobes (7–10 cm. long) on the lower side, thus resembling *A. polymorphum*, Chap., of the South.

962. A. Dracontium, Schott. DRAGON-FLOWER. GREEN DRAGON. (H. and C.)

Rich alluvial soil; scarce. May.

Woods near Fall Cr. west of C. S. railroad. S. W. corner of the lake. Negundo Woods. Woods beyond Larch Meadow, (*O. L. Taylor.*) Field near the mouth of Paine's Creek. Lockwood's Flats, (*Herb. J. J. Thomas.*)

396. PELTANDRA, Raf.

963. P. undulata, Raf. ARROW-ARUM. (H. and C.)

In shallow water; along Cayuga St. on the Marsh. Inlet Marshes. Near Union Springs. Cayuga Marshes. Locke Pond and elsewhere. Our forms, so far as noticed, belong to the above species as restored in Engler's recent monograph. Distinguished from *P. Virginica*, Raf. by the absence of white from the spathe; also the pistillate part of the spadix is ¼ or ⅕ the length of the staminate part while in *P. Virginica*, it is ⅔ the length.

397. CALLA, Linn.

964. C. palustris, L. WILD CALLA. (H. and C.)

Low swamps and sphagnum bogs; infrequent. May 20.–June.

Swamp west of the Inlet. Dryden-Lansing Swamp, and Freeville! (*Dr. Jordan.*) Michigan Hollow Swamp and elsewhere.

398. SYMPLOCARPUS, Salisb.

965. *S. fœtidus, Salisb. SKUNK-CABBAGE. (H. and C.)
Marshes ; common. March–April.

399. ACORUS, Linn.

966. * A. Calamus, L. SWEET-FLAG. (H. and C.)
Sedgy marshes ; common. June.

## LEMNACEÆ.

400. LEMNA, Linn. DUCKWEED.

967. L. trisulca, L. (H. and C.)
Water, in marshes and ponds ; very abundant about Cayuga Lake. Jenning's Pond, Danby, Summit marsh and elsewhere.

968. L. minor, L. (H. and C.)
Pools and larger marshes ; abundant.

401. SPIRODELA, Schleiden.

969. S. polyrrhiza, Schleid. (*Lemna polyrrhiza*, L. Man., p. 479.) (H. and C.)
Pools and marshes ; common.

402. WOLFFIA, Horkel, Schleiden.

970. W. Columbiana, Karst.
Cayuga Marshes, west of Cayuga Bridge. Southwest of the railroad bridge over Seneca R. Montezuma Marshes, near the "Marl Works," and at Mays Point ; usually abundant where it appears.

## ALISMACEÆ.

403. ALISMA, Linn.

971. * A. Plantago, L. var. Americanum, Gr. WATER-PLANTAIN. (H. and C.)
Marshes and borders of streams ; common. July 20–Aug.

404. SAGITTARIA, Linn.

972. * S. variabilis, Englm. ARROW-HEAD. (H. and C.)
All the *varieties* of Man., (excepting var. *pubescens*,) ; common. July–Aug.

973. S. variabilis, Englm. var. obtusa, Gr., is the best marked variety and occurs abundantly on the Inlet Marshes and on Cayuga Marshes and elsewhere. In the shallow water of Cayuga L. the broad-leaved varieties, grow near the shore and var. *hastata*, and var. *angustifolia* farther out. In Cayuga Marshes leaf-blades are found measuring ¼ m. broad by ½ m. long. In outlet of Summit Marsh (also at head of Owasco L,) are plants with long phyllodia, 1½–2½ cm. broad, and hastate, floating or erect leaves.

974. S. heterophylla, Pursh. (H. and C.)
Frequent near Cayuga L. Seneca R., and on Summit Marsh. July-Sept.

975. S. heterophylla, Pursh. var. elliptica, Gr. (also var. *angustifolia*, Gr.)
Frequent all along the low shores of Cayuga L. and outlet.

[S. graminea, Michx, (*S. acutifolia*, Pursh,) in Dr. Thompson's Cat. (1841) and Dr. Sartwell's Cat. (1844) as "?," is probably an error.]

## NAIADACEÆ.

### 405. TRIGLOCHIN, Linn.

976. **T. palustre**, L.

Frequent about Lowery's and Newton's Ponds, W. Junius; "Junius," (*H and C.*)

[**T. maritimum**, L. var. **elatum**, Gr. (*Sartwell, H. and C.*) from Gorham.]

### 406. SCHEUCHZERIA, Linn.

977. **S. palustris**, L.

Sphagnum Swamp, Junius, (*Sartwell, H. and C.*) June–July.

### 407. NAIAS, Linn. NAIAD.

978. **N. marina**, L. (*N. major*, of Man., p. 483.)

The typical form is frequent in shallow water near Canoga Marshes and near Cayuga Bridge, west side of lake. July.

979. **N. marina**, L. var. **gracilis**, Morong, (*Bot. Gazette*, vol. 10. p. 254.)

Off Canoga Marshes. Our specimens have the long stems and internodes and long slender leaves of the Florida form from which the original description was drawn; viz. "No. 2705" of Curtiss' "North Amer. Plants." They however lack the purple color of the latter specimens.

980. **N. marina**, L. var. **recurvata**, n. var.

In the shallow water of Black L. Cayuga Marshes. 1880. Stems stoutish, short, 5–12 cm. inclining to be dichotomously branched, spreading and recurved. Leaves purplish, (the olive-purple of *Chondrus*,) recurved usually, the teeth large and prominent. At the base of the leaf the sheath around the fruit shows a projecting tooth on each side, while in the typical form and var. *gracilis*, the sheath is rounded. Seeds, like the type, except reticulations are often more pronounced. Mr. Morong has most kindly examined the *varieties* described by Braun, to which I had not access, and writes that there is nothing corresponding to var. *recurvata* among them.

981. **N. flexilis**, Rostkov. (H. and C.)

In all our lakes and quiet ponds. July.

Either mossy and 2–3 cm., or slender and ½ meter or more in length.

### 408. ZANNICHELLIA, Micheli.

982. **Z. palustris**, L. (H. and C.)

Ditches on Ithaca Marshes (*Mr. Lord*)! Occasional in quiet pools along Cayuga L. near King's Ferry, Sheldrake, Canoga and Cayuga Bridge. Near the Indian Salt-Springs west of Cayuga marshes. The so-called var. *pedunculata* is at Cayuga Bridge.

### 409. POTAMOGETON, Tourn. POND-WEED.

[Dates under this genus refer to time of fruiting.]

983. **P. natans**, L. (H. and C.)

Shallow ponds or stagnant water; common. July–Sept.

984. P. natans, L. var. prolixus, Koch. in the Inlet and north of Cayuga Bridge. A form of *P. natans*, with small leaves, resembling *P. Oakesianus*, Robbins, grows in Cayuta L.

985. P. Claytonii, Tuck. (H.)
Abundant in the still shallow pools of Cayuga and Cayuta Lakes. Aug.–Sept.

Only the specimens from Cayuta L. have the small leaves, as described by Robbins. Cayuga L. specimens usually twice as long, and the petioles usually as long as the blade. The embryo is coiled 1½ times, *not* "transversely oval."

986. P. Spirillus, Tuck.
Cayuta L. east side, shallow water in sand; rare. Aug.

987. ? P. rufescens, Schrad.
Myers Point, and pool two miles north. Summit Marsh; scarce. In flower in Aug. and Sept. but not found in fruit. Dr. Robbins doubtfully referred them to *P. rufescens* rather than *P. gramineus*.

988. P. lonchites, Tuck. (H. and Wright in C.)
Fall Cr. near the mouth. Dryden L. North of Cayuga Bridge Erie Canal and Seneca river; not common. Aug.-Sept.

The Erie canal forms belong to Tuckerman's *P. fluitans*, Roth. described in Silliman's Journal, LVII, p. 348.

989. P. (species doubtful: possibly *P. Illinoiensis*, Morong,) was found in the Inlet one season.

990. P. amplifolius, Tuck. (H. and Wright in C.)
Cayuga and Cayuta Lakes. Dryden L. and Locke Pond. Aug. Good specimens in the bayou at mouth of Fall Cr. Deep water forms are without floating leaves.

991. P. gramineus, L. (H. and C.)
Cayuga L. near light-house and Myers Pt. Cayuta Lake. Summit Marsh, and elsewhere, extremely variable. Most of our forms correspond most nearly to *var. heterophyllus* of Manual, which cannot, however, be clearly defined as a variety, in this country, according to Mr. Morong.

992. P. Zizii, Mertens and Koch. (*P. lucens*, L., *var. minor*, Nolte, of Man., p. 488.) (C. by Dr. Wright.)
Fall Creek near the east bayou. Summit Marsh, usually in shallow water; not rare, but fruits sparingly. Aug–Sept.

993. P. lucens, L. (H. and C.)
West side of Cayuga L. and near Cayuga Bridge and Seneca River. Aug.–Sept.

994. P. prælongus, Wulfen. (C. by Dr. Wright.)
S. W. part of Cayuga L. and occasional at the foot of the lake; not common. Aug.–Sept.

995. P. perfoliatus, L. (H. and C.)
Very abundant in shallow water from 1–4 meters deep, in Cayuga L., in ponds and creeks. July–Sept.

996. P. perfoliatus, L., var. lanceolatus, Robbins.
The leaves vary much in length, but some in Cayuga Outlet should probably be referred to the *var. lanceolatus*.

997. P. crispus, L. (C. by Dr. Wright.)

Sterile forms exceedingly abundant in deeper water of inlet and lake; fertile in shallower channels and ditches. Rarely fertile near Ithaca in June–July. Abundant in flower and fruit in spring-brook entering west side of Black Lake, Aug. 15, 1885. (Fruits in the Inlet at Watkins.) (Dr. Wright says it has increased in L. Keuka, enormously within a few years, to the exclusion of other species once abundant.)

998. P. zosteræfolius, Schum. (*P. compressus*, L., Man., p. 488.) (H. and C.)

Frequent in Cayuga L., Summit Marsh, Dryden L., Locke Pond, Mill-ponds at Red Mills and Malloryville. Our forms are robust, resembling *Schollera* in the water.

999. P. obtusifolius, M. and K.

Summit Marsh, in the shallow water not far from the northern-most island, where it occurs but sparingly. Aug.

My specimens are short and bushy on account of the habitat, but they otherwise agree closely with specimens from Germany and from Tenn. The latter, sent me by Professor Porter, seem to be nearer the type than his own from "Dillerville Swamp." There are two conspicuous glands at the base of each leaf in all specimens I have seen. These are not noticed in any of the descriptions. Mr. Morong has since written me that they are always present in this rare species.

1000. P. Hillii, Morong. (See *Botan. Gazette*, VI, p. 291.)

Cayuga L. on Myers Pt. In pools north and south of Ithaca. In the Inlet. Dryden L. and Red Mills pond; not uncommon. July, Aug.

First collected in 1875 but referred to *P. pauciflorus*, Pursh. until *P. Hillii* was published. It fruits earlier than *P. pauciflorus*. "Stem about 1° long, slender and widely branching. Leaves all submerged, linear, acute 1′–2½′ long, ½″–1¼″ wide, 3-nerved, the lateral nerves delicate and nearer the margins than the midrib, the midrib often compound below. Stipules free, whitish, obtuse, striate, 3″–5″ long. Peduncles short spreading or somewhat recurved, more or less clavate. Spikes capitate, 3–6 fruited. Fruit obliquely obovate about 1¾″ × 1⅛″, tricarinate on the back, the front slightly arched, obtuse at base. Style nearly facial, short, recurved. Embryo with apex pointing transversely inward." Hitherto reported only from Ohio and westward; but in the *Robbins Herb.* from Dr. Hoysradt, of Dutchess Co., (*Mr. Morong.*)

1001. P. pauciflorus, Pursh. (H. and Wright in C.)

Fall Creek near the mouth. Ditches near Esty's Tannery. Near Negundo Woods, (a larger leaved form); not common. Aug.

1002. P. pusillus, L., (the *var. vulgaris* of Man., p. 489.) (H. and C.)

Near mouth of Fall Cr.; scarce and not in fruit.

1003. P. pusillus, L., var. major, Fries.

Fall Cr. near the mouth, and Cayuga L. west of the breakwater. Cayuga Bridge.

1004. **P. pusillus**, L., var. **tenuissimus**, M. and K.
Danby, in Jennings Pond; apparently scarce.

1005. **P. marinus**, L.
Cayuga L. near Union Springs. ("Fine specimens" in Seneca L., *Mr. Morong.*) This species resembles *P. pectinatus* but is smaller (usually from 10-20 cm. in length) with slenderer, lighter green leaves and smaller fruits.

1006. **P. pectinatus**, L. (H. and C.)
Cayuga L. everywhere abundant, and variable. Aug.–Sept.
There are two remarkable forms, perhaps *varieties*, here, viz.:

1007. var. ———? with slender elongated stems (1–1¼ meters); nodes remote, as are the whorls of the spike, whose peduncle is usually over ¼ m. long. Leaves few and slender, plants sometimes proliferous. Near the light-house, Cayuga L. Dr. Robbins "found no parallel for this remarkable form," in his own observations.

1008. var. ———? a gigantic form growing in deep water N. W. and N. E. of the light-house Cayuga L. Not yet found in flower or fruit, though examined more or less frequently during ten years past. It is frequently proliferous, especially if detached. It grows in banks, the plume-like bushy tops reaching the surface of the water. The leaves and sheaths are similar to *P. pectinatus*, except in length. Dr. Robbins remarked that he had "nothing that comes near to it in length of leaves—*usque ad* 10′." Stipules are usually much shorter than in *P. pectinatus*. Specimens were obtained in 1874 from 4–5½ meters long. This form was also noticed by Mr. H. B. Lord, probably somewhat earlier than 1874.

1009. **P. Robbinsii**, Oakes.
Abundant in all our lakes, but not yet found in flower or fruit.

## CYPERACEÆ.

### 410. Cyperus, Linn. Galingale.

1010. **C. diandrus**, Torr. (H. and C.)
Low grounds, and near streams and shores; frequent. Aug.–Sept.

1011. **C. inflexus**, Muhl.
Along the bar in Eddy Pond, Cascadilla Creek (1884); rare. Aug.–Sept.

1012. **C. phymatodes**, Muhl.
Shores, also thriving in damp cultivated ground; infrequent. Aug.–Sept.
South Hill. Linn St., Ithaca. Cayuga L. on the damp sandy points.

1013. **C. strigosus**, L. (H. and C.)
Low grounds; common and variable. Aug., Sept.
A form is not uncommon on the brackish soil near the "Deer-lick" west side of Cayuga marshes, bearing 5-flowered spikelets in narrow oblong rays. (Same form in herb. from Buffalo and Salina, N. Y.)

1014. C. Michauxianus, Schultes. (H. and C.)
Sandy shores, only toward the foot of Cayuga L. where it is frequent. Aug.–Sept.
Union Springs and Canoga to Cayuga, and on the borders of Cayuga marshes.

1015. C. Engelmanni, Steud; rare, on shore of Canoga marshes. Sept.

1016. C. filiculmis, Vahl.
Sandy fields near W. Junius Pout Pond. "Junius," (*H. and C.*) Aug.-Sept.

411. DULICHIUM, Pers.

1017. D. spathaceum, Richard. (H. and C.)
Marshes, often on the borders of peat-bogs; common. July–Aug.

412. ELEOCHARIS, R. Br.

1018. E. obtusa, Schultes. (C.)
Wet grounds and shores; common. June–Aug.

1019. E. ———, form clearly allied to *E. obtusa*, but with recurved stems, smaller akenes, narrower tubercles, 2-cleft style, and slenderer shorter bristles; occurs occasionally on low shores of ponds. Eddy Pond. Jenning's Pond, Danby. Dryden L. Stamens not seen, but excepting the habit, this form resembles Ch. Wright's *E. diandra.* (See *Torrey Club Bulletin*, X, p. 101.)

1020. E. palustris, R. Br. (H. and C.)
Marshes and shallows; common. Over 1 m. tall at Summit Marsh. June–July.

1021. E. palustris, R. Br., var. glaucescens, Gr., on Canoga Marshes.

1022. E. rostellata, Torr.
Rare—July. West side Cayuga Marshes, about the Indian Salt-Springs. Junius, about Newton's and Lowery's Ponds. Probably the latter is Sartwell's old station "Junius," (See *Sartw. Herb.; Torrey's Fl. N. Y.: Man., 4th Ed.*)

1023. E. intermedia, Schultes. (H. and C.)
Low shores of lakes, ponds and muddy streams; frequent. July.
Plants often erect when growing in muddy places.

1024. E. tenuis, Schultes. (C.)
Marshes; frequent; June.

1025. E. acicularis, R. Br. (H. and C.)
Marshes and muddy shores; common. June–Oct. (C.)

1026. E. pauciflora, Wats. (*Scirpus pauciflorus, Lightf.*, Man., p. 560.)
Rare; July–Sept. Cayuga L. on Utts Pt. and Farley's Pt. In shallow water, Summit Marsh, scarce, and taller than usual, blossoming about Aug. 15.

413. SCIRPUS, Linn.

1027. S. planifolius, Muhl.
Dry slopes, in woods; scarce. May–June.
Woods south of Esty Glen, (*F. C. Curtice* and *F. L. Kilborne.*) Renwick Farm slope. South Hill beyond the "Incline." Fall Creek, north of Fiske-McGraw mansion. South side of Paine's Creek, Aurora.

1028. S. pungens, Vahl. (H. and C.)
Sandy shores; frequent near Cayuga L. Locke Pond and elsewhere. July, Sept.

1029. S. lacustris, L. (*S. validus*, Vahl., Man., p. 562,) the common form in E. North Amer. has smaller, narrower akenes than the typical *S. lacustris* which has been found by Mr. O. E. Pearce at Sodus Bay, N. Y.
Marshes and lakes; common. July–Aug.
Its tall, dark rods are very characteristic of the shallows, forming a "tule"-like fringe at the north and south ends of Cayuga L.

1030. S. Smithii, Gray.
Shores of Cayuga Lake; rare. Aug–Sept.
Myers Pt. Utts Pt and mouth of Big Gully Brook.

1031. S. maritimus, L. SEA CLUB-RUSH.
Near salt springs; rare. Aug., Sept.
Montezuma Marshes, (*Dr. Peck, 28th N. Y. Rep.*, p. 89.)! It occurs by the two salt springs near Salt Cr. (large plants); and in the brackish shallow water in a pasture east of the Creek, (small form.)

1032. S. fluviatilis, Gray. (H. and C.)
In the larger marshes, where it is common. June–Aug.
Inlet Marshes. Summit Marshes and elsewhere. One of the commonest plants on the Cayuga Marshes.

1033. S. sylvaticus, L., var. digynus, Bœck, (*S. microcarpus*, Presl., Man., p. 564.)
Marshy places; not common. June.
Marsh south of the boat-landing and north of Ithaca. Cayuga Marshes. Near Wood's Sta.

1034. S. atrovirens, Muhl. (H. and C.)
Low grounds; common. June–July.

1035. S. polyphyllus, Vahl. (H.)
Meadows; scarce. July.
Larch Meadow, White Church valley and near Wilseyville.

1036. S. lineatus, Michx.
Wet sandy places; scarce. June 20–July.
By road north of Jacksonville. South of Taughannock ravine. North of Taughannock ravine, by springs in a field. Near mouth of Paine's Creek. Genoa, by R. R.

1037. S. Eriophorum, Michx. WOOL-GRASS. (H. and C.)
Low grounds; common. Aug.–Sept.

1038. S. Eriophorum, Mx., var. cyperinus, Gr.
Howland's Point north of Union Springs, and along Seneca R.

1038[a]. The *var. laxus* on Myers Point and elsewhere.

414. ERIOPHORUM, Linn. COTTON-GRASS.

1039. E. alpinum, L.
Round Marshes only; very rare. June.

1040. **E. vaginatum**, L.

Sphagnum swamps; scarce. May 20–June 10.

Larch Meadow. Round Marshes.

1041. **E. Virginicum**, L.

Sphagnum swamps, where it is frequent. July–Aug.

Freeville, Malloryville, Woodwardia Sw., Round Marshes, "Junius," (*Sartwell H. and C.*)

1042. **E. Virginicum**, L., var. **album**, Gr.

Woodwardia Sw. and W. Junius.

1043. **E. polystachyon**, L.

In nearly all sphagnum swamps. May 25–June 15.

Most of our specimens have rough peduncles, but they are nearly smooth in those at Mud Cr.

1044. **E. gracile**, Koch. (Dr. Wright in **C.**)

Sphagnum swamps; occasional. June 20–July 20.

Freeville. S. E. of Chicago Sta. Venice, near R. R. W. Junius Tamarack swamp.

415. RHYNCHOSPORA, Vahl.

1045. **R. alba**, Vahl.

Marshy places and sphagnum bogs; frequent. July 20–Sept.

1046. **R. capillacea**, Torr.

Rare; July, Aug., about Newton's Pond. W. Junius. "*Junius*," (*Sartw. H. and C.*)

416. CLADIUM, P. Browne.

1047. **C. mariscoides**, Torr.

Marshy places; scarce. July 20–Oct.

Summit Marsh. Peat-bog S. E. of Chicago Sta. Newton's P., Junius, "*Junius*," (*Sartwell, H. and C.*)

417. SCLERIA, Linn.

[**S. triglomerata**, Michx. in Sartwell's Catalogue, 1844.]

1048. **S. verticillata**, Muhl.

Cold marshes; July, Aug., about Newton's Pond, W. Junius. "*Junius*," (*Sartw. H. and C.*)

418. CAREX, Linn.

[All dates under this genus refer to the period when *mature perigynia* may be found.]

1049. **C. pauciflora**, Lightfoot. (**C.**)

Sphagnum bogs; rare. June,

Round Marsh. "Junius," (*Sartwell, in Herb. Cornell Univ.*)

1050. **C. polytrichoides**, Muhl. (**H.** and **C.**)

Bogs and springy marshes; abundant. June.

Specimens from Ringwood and Cayuta L. have bracts, 3–4½ cm. long.

1051. **C. Willdenovii**, Schk. (**H.** and **C.**)

Not uncommon in woods and on banks of ravines. June 20–July 20.

1052. **C. Steudelii**, Kunth.

Rare; "Amphitheater," in Six Mile Cr. ravine. June.

1053. C. bromoides, Schk. (H. and C.)
Shaded swamps; abundant. June 1–20.

1054. C. disticha, Huds. (*C. Sartwellii*, Dew.)
Rare; in marsh about Lowery's Pond, W. Junius. "Junius," (*Sartwell; in Herb. of Ham. Coll.* and *Herb. Cornell U.*)

1055. C. teretiuscula, Good. (H. and C.)
Peat-bogs usually; infrequent. June.
Larch Meadow and the peat-bogs of Freeville, McLean and Locke Pond.

1056. C. teretiuscula, Good, var. major, Koch.
With the preceding form, and maturing at nearly the same time.

1057. C. decomposita, Muhl. (H. and C.)
"Junius," (*Sartwell in Herb.*) ("Penn Yan," *Sartwell in Herb. Cornell U.*)

1058. C. vulpinoidea, Michx.
Low grounds; very common. July.

1059. C. stipata, Muhl.
Low grounds; common. June 1–20.

1060. C. alopecoidea, Tuck. (H. and C.)
Moist open meadows; scarce. June 15–July 15.
Field S. of E. C. and N. depot. E. of Freeville. Near Marl Cr. Frontenac Id. W. Junius. North of Ludlowville, (*F. C. Curtice.*)

1061. C. sparganioides, Muhl. (H.)
Woods and rich slopes; abundant and variable. June.

1062. C. sparganioides, Muhl., var. minor, Boott; frequent and usually with leaves 5–8 mm. broad. Specimens from Enfield ravine and the Cemetery woods have narrow leaves 3 mm. broad.

[C. cephaloidea, Dew., is in Sartwell's Herb. from "Penn Yan," but no true *C. cephaloidea* has been found within our own limits.]

1063. C. cephalophora, Muhl. (H. and C.)
Meadows and pastures; very common. June 20–July.
Mr. Lord found at Ithaca specimens with the upper half of the spikes staminate, and in one case the upper spike entirely staminate. (See 20th N. Y. Rep., p. 409.)

1064. C. rosea, Schk. (C.)
Grassy banks and woods; common. June 15–July 15.

1065. C. rosea, Schk., *var. minor*, Boott.; frequent.

1066. C. rosea, Schk., *var. radiata*, Dew.; scarce. Six Mile Creek "Narrows."

1067. C. retroflexa, Muhl. (H. and C.)
Slopes, more or less rocky; not common. June 10–30.
Casc. Cr. N. W. of Eddy dam. South Hill. Renwick Farm slope and elsewhere.

1068. C. chordorhiza, Ehrh.
Cold sphagnum swamps; "Junius," (*Sartwell in C. U. Herb.*, also in *Herb. Ham. Coll.* and *Cat. of 1844.*).

1069. **C. tenella**, Schk. (H. and C.)
Sparingly in the moss of nearly all our cold shaded swamps, especially of Hemlock or Tamarack ; also South Hill Marsh. June.

1070. **C. trisperma**, Dew.
Swampy woods and mossy swamps ; not uncommon. June.

1071. **C. canescens**, L. (H. and C.)
Cold swamps or peat-bogs ; not uncommon. June.

1072. **C. canescens**, L. var. **vitilis**, Carey. (H. and C.)
Infrequent. Dryden-Lansing Sw. Michigan Hollow Sw. Freeville bog. Round Marsh woods, and Enfield Spruce Sw.

1073. **C. Deweyana**, Schk. (H. and C.)
Woods. Six Mile Cr. McGowan Woods and elsewhere ; not common. June–July 15.

1074. **C. sterilis**, Willd. (H. and C.)
Sphagnum swamps ; scarce. June 20–July.
Specimens mostly barren, from Round Marsh, Locke Pond and W. Junius ponds ; with fuller fruit at Freeville, Summit Marsh and Locke Pond.

1075. **C. echinata**, Murr. (*C. stellulata*, Man., p. 579.) (H. and C.)
Open bogs or moist grassy places ; abundant. June.

1076. **C. echinata**, Murr., var. **microcarpa**, Bœck. (*C. stellata var. scirpoides*, Carey.)
In sphagnum bogs ; common. June.

1077. **C. scoparia**, Schk. (H. and C.)
Meadows and wet pastures ; very common. June 20–July.

1078. **C. scoparia**, Schk. var. **intermedia**, Olney,—a tall form with oblong aggregated spikes occurs in Fleming Meadow and Summit Marsh.

1079. **C. lagopodioides**, Schk. (typical form of Schkur's fig. 177 and Boott's Ill. tab. 370.) (C.)
Common in low meadows and borders of pools. July.

1080. **C. lagopodioides**, Schk. var. **moniliformis**, Olney.
In cold shaded swamps or borders of swamps ; not common. June–July.

1081. **C. cristata**, Schw. (H. and C.)
Marshes and along streams : common. July–Aug.

1082. **C. cristata**, Schw. var. **mirabilis**, Boott. (H. and C.)
Fields and wet meadows ; frequent.

1083. **C. adusta**, Boott.
Woods rare, in the woods on Taft's Hill, Caroline. July.

1084. **C. straminea**, Schk. (*typica.*) (H. and C.)
Moist, grassy places. South Hill. Taughannock. Frontenac Id. and elsewhere. (E. of Watkins.) June 10–25.

1085. **C. straminea**, Schk. var. **tenera**, Carey.
Moist thickets ; not common. June 15–30.

South Hill with *Andromeda*. Near Lucifer Fall, Enfield. Olney's *forma erecta* of this species occurs near Enfield Spruce Swamp.

1086. C. straminea, Schk. var. festucacea, Carey.

Canoga, the beach near the Marshes. (In Herb. from *Yates Co., Dr. Wright.*)

1087. C. alata, Torr.

The larger marshes; scarce. June 15–30.

Northern part of Cayuga Marshes. Montezuma Marshes, east side of Savannah "island." In Herb. from Junius, (*Wright.*) (In C. U. Herb. from Penn Yan, *Sartwell.*)

1088. C. aquatilis, Wahl. (C.)

Cold marshes; not common. June 20–July 10.

Larch Meadow. Round Marshes. Union Springs. Newton's P., Junius. A form with slender leaves and short spikes, at Locke Pond, corresponding to the *C. xerocarpa* form of *C. angustata.*

1089. C. torta, Boott. (H. and C.)

Along ravine beds, and wet places; frequent. May 10–30.

1090. C. angustata, Boott. (*C. stricta*, Man., p. 583; *Boott, Illustr.* tab. 586.) (H. and C.)

In tussocks, in standing water; not common. June 1–20.

Not near Ithaca, but in Round Marsh; and by R. R. west of Malloryville. Hemlock Cr., Groton. Locke Pond.

1091. C. angustata, Boott. var. *β.* (*Boott, Illustr.* tab. 587.)

Freeville, mouth of Mud Cr. W. Danby.

1092. C. angustata, Boott. var. strictior. (*Boott, Illustr.* tab. 588.)

Frequent; often in broad beds, or in tussocks when in water. Fall Cr., Cold Spring Marsh. Indian Spring Marsh. Round Marshes. Michigan Hollow. Lowery's Pond, Junius; "Junius," (*Sartwell.*)

1093. C. angustata, Boott. var. xerocarpa, L. H. B., is at Freeville.

1094. C. crinita, Lam. (H. and C.)

Wet places, common; occasionally androgynous. June 10–30.

1095. C. gynandra, Schw. (*C. crinita*, var. *gynandra*, Schw. and Torr.)

Rare; Freeville near sphagnum bog and Fir-Tree Swamp.

1096. C. limosa, L.

Sphagnum swamps; scarce. May 20–July.

Freeville bog. Malloryville. Junius, (*Sartwell, H. and C.*); north of the Pout Pond.

1097. C. Magellanica, Lam. (*C. irrigua*, Sm. Man., p. 584.) (C.)

Rare; Freeville Bog. Lowery's Pond, Junius.

1098. C. Buxbaumii, Wahl.

Rare; "Junius," (*Sartwell, Herb. Cornell Univ.* and *Herb. Ham. Coll.*)

1099. C. aurea, Nutt. (H. and C.)

Wet springy ground; infrequent. June–July.

Case. Woods. Six Mile Cr. and elsewhere. Specimens with androynous terminal spikes occur at Otter Creek, Cortland; in Case.

Woods and at Taughannock. Spikes compound (proliferous from lower perigynia) at Taughannock, (*F. V. Coville.*)!

1100. **C. tetanica**, Schk.

Moist woods and ravines; infrequent. June.

Casc. Woods. Green-Tree Falls. Freeville, near Fir Swamp, Danby. Round Marsh. Near Woods Sta., with *Jeffersonia*. Junius, Lowery's Pond. "Junius," (*Sartwell C. U. Herb.*)

1101. **C. granularis**, Muhl. (H. and C.)

Grassy meadows and wet places; common. June 10–20.

Very variable. A broad-leaved form suggests *G. glaucodea*. The "var. *recta*" Dew., with smaller ovate perigynia is the most abunddant. Specimens from Casc. Woods show an androgynous upper spike. It is the most abundant sedge on the rich farms of Venice.

1102. **C. pallescens**, L. (H. and C.)

In pastures of cold clay soil; not common. June 15–July.

The *C. undulata* form, (*Kunze*, tab. 4, f. 2.) occurs near Malloryville and Turkey Hill. The Malloryville specimens also had cylindrical proliferous pistillate spikes, and peduncle of staminate spike 2–3 cm. long.

1103. **C. grisea**, Wahl. (Dr. Wright in C.)

Rich shaded soil; scarce. June.

Casc. ravine, (*O. E. Pearce.*) Fall Cr., a few. South Hill Marsh. Near Fall Cr., at Freeville. Along Marl Cr.

1104. **C. glaucodea**, Tuck. (*Proc. Amer. Acad.* VII. p. 395.–1865.)

Rare; South Hill, with *Adromeda*, 1882. (*F. C. Curtice.*) June 15-30.

Also about South Hill Marsh.

"Spikes 4–5, cylindrical; terminal staminate, subsessile, clavate; the others pistillate, leafy-bracted, many-flowered, upper approximate, peduncles exserted, lower distantly remote, all with the leaves pale or glaucous-green. Perigynia ovoid-turgid, obtuse, orifice subentire, many-nerved, 1½″ long. Scales broad-ovate, short-cuspidate, whitish, barely 3-nerved and green to the middle, Akenes obovate, triqueterous." Plants usually *spreading or ascending 6′–12′ high, smooth. Leaves 2½″–4″ wide*, shorter than culm, *very glaucous. Perigynia more dense than in C. grisea, fewer-nerved, pointless, its scale shorter and less pointed.* Occurs sparingly from Mass. to Del. In N. Y. reported only from Dutchess Co. In habit, texture, character of scales and color it seems quite distinct from *C. grisea.*

[**C. conoidea**, Schk. from Penn Yan, *Sartwell, Herb. Cornell U.; also in Cat.*]

1105. **C. gracillima**, Schw. (H. and C.)

Woods; abundant. June.

Malloryville specimens exhibit proliferous branches to spikes; and occasionally specimens exhibit smaller, sharper perigynia than usual.

[**C. formosa**, Dew. "Penn Yan." (*Sartwell, H. and C.*]

1106. **C. triceps**, Michx. (H. and C.)

Grassy copses; rare near South Hill Marsh. It varies into the form "*C. hirsuta*, var. *pedunculata*," *S. and T.*, which has oblong cylindrical spikes and leaves scarcely pubescent. Near Bear Swamp.

1107. **C. virescens**, Muhl. (H. and C.)

Woods; infrequent. June 20–July.

Enfield ravine. Near Danby. W. shore of Cayuga L., near Marion's. Near Etna. Freeville.

1108. **C. virescens**, Muhl. var. **elliptica**, Olney. (Spikes longer and perigynia more pointed) is found near Etna. Ovid. Summit Marsh.

1109. **C. plantaginea**, Lam. (H. and C.)

Ravines and rich woods, where it is frequent. May 10–30.

Six mile Creek. Round-Marsh Woods and elsewhere.

1110. **C. Careyana**, Torr.

Rare; May 25–June 10. Taughannock ravine? 1874, (*R. Yatabe.*) Ravine north of Buttermilk Cr., 1882, (*F. C. Curtice*)! Woodwardia Swamp Woods, 1883, (*O. E. Pearce*)! Wood's Sta., with *Jeffersonia*. The type specimens were found near Auburn, N. Y., by John Carey, 1832.

1111. **C. platyphylla**, Carey. (Dr. Wright in C.)

Ravines and beech woods; common. June 1–15.

1112. **C. platyphylla**, Carey, var. ———.

In the nook, opposite the Beechwoods, Six Mile Cr., 1883, (*O. E. Pearce.*) Elmwood Glen, Cayuga L. It differs from the type in leaves broader, (3 cm.) and longer than the culm; and pistillate spikes mostly with 6 flowers instead of 3 or 4; Boott says there are rarely 7 flowers in the type.

1113. **C. retrocurva**, Dew.

Beech woods and elsewhere; abundant. June 15–July 15.

Variable in width of leaves and length of bracts. Forms with green leaves 4–6 mm. broad, in Six Mile Cr., Taughannock and Paine's Cr. These have, however, the sterile flowers at the base of the pistillate spikes, characteristic of true *C. retrocurva*. A form was found near Ovid, with broad leaves, (8–14 mm.) and large perigynia, suggesting *C. platyphylla*, but the peduncles were long and slender.

1114. **C. digitalis**, Willd. (H. and C.)

Woods along ravines and hillsides; common. June 15–July 15.

1115. **C. laxiflora**, Lam. (H. and C.)

Woods, ravines, or even open meadows; common.

The typical form is abundant and earlier than *var. blanda*. Specimens from Green-Tree Falls are proliferous from the lower perigynia.

1116. **C. laxiflora**, Lam., var. **plantaginea**, Boott.

Scarce; genuine specimens from the ravines north of King's Ferry. Less pronounced ones from Casc. Cr. Fall Cr. in Cold Spring Marsh. McGowan Woods and Freeville.

1117. **C. laxiflora**, Lam., var. **intermedia**, Boott.
Frequent; a peculiar green-leaved, swamp form is referred to this; the latter matures in July.

1118. **C. laxiflora**, Lam., var. **blanda**, Dew.
Common; the sub-variety *minor* is frequent in the meadows.

1119. **C. laxiflora**, Lam., var. **latifolia**, Boott.
Rich soil, ravines or old woods; frequent. Six Mile Cr. Enfield ravine. Woods near Freeville. Round Marsh, and elsewhere.

1120. **C. Hitchcockiana**, Dew. (C.)
Low woods; scarce. June 15–30.
North of Forest Home, (*F. C. Curtice.*) South of Danby village. Wood's Sta. Ovid woods. Franklin's ravine and "Camp Warwick."

1121. **C. oligocarpa**, Schk. (H. and C.)
Shaly banks of Six Mile Cr., below Green-Tree Falls, 1884, (*O. E. Pearce.*)! Rare; May 25–June 10.

1122. **C. eburnea**, Boott. (H. and C.)
Cliffs, or marly places near ravines; not rare. May 15–June 10.
Casc. Cr. Fall Cr. Salmon Cr., and elsewhere.

1123. **C. pedunculata**, Muhl. (C.)
Shaded ravines, and old logs in swamps; frequent. May 15–30.
Cascadilla and other ravines. Mud Cr. and Beaver Cr. swamps.

1124. **C. umbellata**, Schk. (H. and C.)
Banks of ravines, and dry slopes; not uncommon. May.
This is our earliest-flowering Carex.

1125. **C. Emmonsii**, Dew.
Woods, ravines and hillsides; frequent. May 20–June 20.

1125[a]. **C. Emmonsii**, Dew., var. **elliptica**, Boott, occurs south of Shurgur's Glen.

1126. **C. Pennsylvanica**, Lam. (H. and C.)
Woods and dry banks; common and variable. June.
A form is found on Ball Hill in woods, with long culms, nearly ½ m. tall, and leaves nearly ⅔ m., much exceeding the culm, as do the slender bracts.

1127. **C. varia**, Muhl. (C.)
Woods and rich slopes of ravines; common. June.
The spike in this varies in size according to soil.

1128. **C. pubescens**, Muhl. (H. and C.)
Rich soil; not common. June-July 15.
Near the Cold Spring. Six Mile Cr. Freeville. Taughannock. McGowan Woods. Enfield. Paine's Cr. and elsewhere.

1129. **C. miliacea**, Muhl. (H. and C.)
Wet places in woods; frequent. Fall Cr., etc. May 20–June 20.

1130. **C. scabrata**, Schw. (H. and C.)
Cold marshes in ravines and swamps; frequent. July–Aug.

1131. **C. arctata**, Boott. (C.)
In rich swampy woods; not common. June.

1132. C. debilis, Michx. (C.)

Sunny banks, on the borders of swamps; scarce. June.

*var. a.* Boott. (Staminate spike usually not androgynous; pistillate nodding and broader,) occurs near Dryden-Lansing Swamp, Marl Cr., Marl Pond woods, Bear Swamp and near the Pout Pond, W. Junius.

1133. *var. β*, Boott, (staminate spike with some pistillate flowers; pistillate spikes slender, erect,) is found near Freeville bog, in the meadows southeast of Etna and on Turkey Hill.

1134. C. capillaris, L., var. elongata, Torr.

On half-submerged logs west side of the principal "Marl Pond," South Cortland, 1884. ("Otter Cr. near Cortland, N. Y.: *S. N. Cowles*, 1869;" see *Olney's Carices, Boreali-Amer.*) At the latter station,—3 miles from the former,—many of the plants were destroyed in constructing the fish-pond; but others still exist a few rods north, on the logs which lie in the cold, spring-water. Not elsewhere known in N. Y., although it probably exists within its limits. The home of the species is in the Rocky Mt. region from Col. to Alaska. Said to occur in N. H.

1135. C. flava, L.

Spring meadows and marshes, where it is common. June–July.

The form, "*var. androgyna*," Olney, is at Summit Marsh, Locke Pond, the Marl Ponds, and at the mouth of Paine's Cr. Some of the Locke Pond specimens possess compound pistillate spikes. (Junius, *H. and C.*)

1136. C. Œderi, Ehrh.

Limestone or marly soil; scarce but variable. June–Sept.

The form nearest to the type,—yet of a very different aspect, is the *var. prolifera*, H. B. Lord, *19th N. Y. Rep.*, 1865, p. 76, in which "at least one of the spikes of each plant is proliferous; that is, from one of the perigynia issues a stalk bearing a spike"; usually the secondary spikes are abundant enough to form a dense ovoid mass or irregular head. It is altogether probable that Michaux, (*Flora Bor. Amer.*, II, p. 171,) had similar specimens in mind in describing the spikes of *C. Œderi* as "many, conglomerate-approximate." Found near Cayuga L.; at Salmon Cr., south of the spring; (*Mr. Lord,*)! Farley's Point; Utts Point; shore near quarry south of Union Springs.

1137. C. Œderi, Ehrh., *forma intermedia.*

Near the Marl Ponds and Marl Cr. meadows. Near Otter Cr. These are nearest the slender forms, (*C. viridula*, Michx., formerly,) of *C. Œderi*, such as those at W. Bergen, in the great marl-swamp; but are still taller and more robust, approaching in habit *C. flava*. They have the dark and rather slender rigid, erect leaves and bracts, and the small perigynia mostly ascending with a short straight beak, characteristic of *C. Œderi*; but the spikes are oblong or cylindrical, mostly 1½ cm., robust, the upper variously androgynous, the lower often proliferously compound.

1138. C. filiformis, L. (C.)
Sphagnum swamps, where it is frequent. June.

1139. C. filiformis, L., var. latifolia, Bœck., (*C. lanuginosa*, Man., p. 595.) (H. and C.)
Borders of most of our sphagnum marshes; also near the shore on Farley's Point and in marsh north of Union Springs.

1140. C. riparia, Curtis. (H. and C.)
Sedgy sphagnum swamps, where it is frequent. June 15–July.
It also occurs in springy soil on the Inlet and other marshes.

1141. C. HIRTA, L.
Introduced by D. L. and W. railroad, on South Hill east of the "Incline," where it is spreading vigorously. Detected 1882, but may have been growing there for ten years. It is a native of Europe and Asia. Elsewhere introduced in Amer. only at Philadelphia, and in Mass. Among our native species, its closest affinity seems to be with *C. trichocarpa*, with which it agrees in its running rootstocks, hairy perigyna, and its scale. It is a much lower plant than that species, its leaves and sheaths are soft-hairy, and the pistillate spikes remote and scattered. The length of the perigynium is 6–7 mm., and the scale is aristate.

1142. C. trichocarpa, Muhl. (H. and C.)
Along the larger marshes or lakes; infrequent. June 20–July.
Fall Cr., Beebe Pond. Marshes about Ithaca. Ludlowville. North of Freeville, and elsewhere.

[C. trichocarpa, Muhl., var. imberbis, Carey, at Penn Yan, *Gray's Man.*, p. 597.]

1143. C. comosa, Boott. (H. and C.)
Borders of ponds; not common. July.
Marshes along Cayuga St. Round Marsh Pond. Cayuta L. and elsewhere.

1144. C. comosa, Boott. × C. tentaculata, Muhl., was found near W. Danby.

1145. C. Pseudo-Cyperus, L. × C. hystricina, Willd. ?
Near the Pout Pond, W. Junius.
Both of these apparent hybrids present intermediate characteristics between the supposed parent species, and both have well-developed but empty perigynia. In the case of the former, (No. 1144,) the two parents were growing in the closest proximity.

1146. C. Pseudo-Cyperus, L. (H. and C.)
Rare; at Locke Pond; (and by the Erie Canal, east of the Lockpit.) Wm. Boott's view, viz: that *C. comosa* should be reduced to a *variety* of this species, is no doubt the correct one.

1147. C. hystricina, Willd. (H. and C.)
Open meadows; frequent. June 15–30.
Along Cayuga L., the upper spike is occasionally androgynous, and all the spikes more or less compound.

1148. C. tentaculata, Muhl. (H. and C.)
Meadows and swamps; common. July–Aug.

1149. **C. intumescens**, Rudge. (H. and C.)
Chiefly near the colder swamps ; frequent. June–Aug.
South Hill Marsh, north of Forest Home, and elsewhere.

1150. **C. Grayii**, Carey.
Shaded swamps ; rare. June–July.
Freeville, south of Fir-Tree Swamp, 1882, (*F. C. C.* and *W. R. D.*)
(Head of Owasco L., with *Carya Sulcata*, 1881.)

1151. **C. lupulina**, Muhl. (H. and C.)
Swamps ; common and variable. June 20–Aug.
Beside the typical form, having the fertile spikes approximate, there are several well-marked conditions, as follows : 1. A form with stalked and scattered fertile spikes, frequent and approaching in aspect *C. Halei*, *Boott*, (*Illustr.* II, t. 279.) 2. The "*var. longi-pedunculata*, Sartwell," (see *Horace Mann Herb. C. U.*) having 4–7 spikes, the pistillate on long peduncles, the longest 20–25 cm.; scarce near Ellis Hollow Swamp. 3. A large robust form ; leaves 10–14 cm. broad, spikes and perigynia large and akenes broader than usual but mostly abortive ; Woodwardia Swamp and Myers Point. 4. The well-marked *var. polystachya*, Schw. and Torr., (*C. lupuliformis*, Man., p. 598,) in *Cornell U. Herb.* and *Herb. of Ham. Coll.*, from Penn Yan, (*Sartwell.*)

1152. **C. lupulina**, Muhl. × **C. retrorsa**, Schw., (*C. lupulina*, Muhl., *var. gigantoidea*, Dew., *Amer. Jour. of Arts and Sci.*, XCI, 1866, p. 328.) The specimens from which Dewey described his *var. gigantoidea* were collected by Hon. H. B. Lord, on Myers Pt. in 1865; and his description, and the specimens still to be found there, agree substantially with those found rather frequently on the Ithaca Marsh between the Glass Works and Willow Ave.; north of Freeville ; and near Taughannock Sta. of C. S. railroad, (*F. C. C.*) After carefully examining about a hundred specimens, there seems little doubt that they are hybrids of the above, for the following reasons : 1. The diverging perigynia are intermediate in size and number of nerves. 2. The 2–3 pistillate spikes are scattered as in *C. lupulina*, (form 1,) and mature between the time of ripening of *C. retrorsa* and of *C. lupulina*. 3. There are usually 2–3 staminate spikes with the aspect of *C. retrorsa*, (*C. lupulina* has but one,) often bearing a few perigynia at the base from which small staminate spikes are frequently proliferous. The latter condition is often seen in *C. retrorsa* and is shown in Boott's tab. 276 and described on p. 94, Vol. II. 4. Akenes almost always abortive, as is usual with hybrids; when present not well-formed. 5. When mature the perigynia resemble the inflated ones of *C. lupulina* in texture and appearance, but are straw-colored like *C. retrorsa*. 6. The hybrids are usually accompanied by both the above species. It is interesting to find this form in the Herb. of Prof'r Thomas, collected in 1827.

1153. **C. folliculata**, L. (H.)
Low woods ; scarce. June–Aug.
South Hill Marsh. North of Forest Home in Woods. Freeville, in Fir-Tree Swamp. North of Etna. Beaver Cr. Swamp.

[C. squarrosa, L., in Sartwell's Cat of 1844.]

1154. C. retrorsa, Schw. (H. and C.)
Meadows and the lake shore; frequent. June-July.

1155. C. retrorsa, Schw., var. Hartii., Carey, (for full description, see Paine's Cat., p. 163.) Ludlowville, (*Mr. Lord* in Paine's Cat.) Ithaca Marsh. Ellis Hollow Swamp. Slenderer than the type, the lowest spikes long-peduncled, perigynia few-nerved and akenes not as papillose as in the type.

1156. C. utriculata, Boott, (C.)
The typical form, in the borders of deep cold swamps, is rare here; Summit Marsh. Meadows south of Michigan Hollow Swamp, as *forma composita* (local.) These have elliptical or oblong perigynia, 7–9 mm. long, with short teeth, as figured in *Boott, Illustr.*, tab. 39. The spikes of the latter are branched below in a proliferous manner. The common form, occurring in the larger marshes and along our ponds and lakes, has much smaller, nearly ovate perigynia. Its extreme is the next variety.

1157. C. utriculata, Boott, var. minor, Sartwell.
Ludlowville, (*H. B. Lord, in Paine's Cat.*, p. 164, and in *Cornell Univ. Herb.*) Canoga. Round Marsh.

1158. C. ampullacea, Good. (H.)
Specimens from Locke Pond, and more pronounced ones from the Marl Ponds, must be referred here, although they are not typical. The few spikes, slender and mosly smooth culm, canaliculate leaves, and scarcely hispid scale, show the approximation to that species, and yet suggest certain characters of *C. utriculata.*

1158[a]. C. ampullacea, Good., var. sparsiflora, Dew., "Junius," (*Herb. Sartwell.*)

1159. C. monile, Tuck. (H and C.)
Borders of pools, etc.; rare. July.
Near the road south from the Junius Pout Pond. (Near Moravia, *Dr. Atwood.* Yates Co., *Cornell U. Herb.*, from *Sartwell and Wright.*)

1160. C. Tuckermani, Boott. (H.)
Marshes and low woods; infrequent. June–July.
Marsh north of Ithaca. Ludlowville, (*Mr. Lord.*) Ringwood. By Fall Cr. near Freeville, and elsewhere.

[C. longirostris, Torr. Rare E. side of the valley at Watkins. June 1–12. Penn Yan, *Sartwell, in Herb. C. U.*]

## GRAMINEÆ.

### 419. PANICUM, Linn.

1161. P. GLABRUM, Gaudin. (H. and C.)
Lawns and roadsides; frequent near Ithaca. Aug.-Sept.

1162. P. SANGUINALE, L. CRAB-GRASS. (H and C.)
Cult. soils; everywhere. July–Oct.

1163. P. proliferum, Lam.
Brackish soils; local. Aug.–Sept.
Fields near the Salt Creek, Montezuma.

1164. P. capillare, L. OLD-WITCH GRASS.

Cult. soils; common. Aug.–Oct.

A form with spindle-shaped spikelets and all parts slenderer than type is frequent on the lake shore.

1165. P. virgatum, L.

Near Cayuga L.; rare. Aug.

Farley's Point, a single cluster, 1881. "Cayuga Marshes," (*Sartwell, in Paine's Cat.*, p. 173.)

1166. P. latifolium, Muhl. (H. and C.)

Woods; frequent. July.

Beside the typical form, a slender one is frequent, usually branched and destitute of hairs at the joint, leaves elongated-lanceolate. It is abundant in Casc. Woods, and elsewhere.

1167. P. clandestinum, L. (H. and C.)

Rare; only in the border of the woods near the brook north of the "Nook." Possibly introduced here.

1168. P. microcarpum, Muhl., var. sphærocarpon, Vasey.

Rare; woods near the road between the W. Junius ponds and Geneva.

1169. P. nervosum, Muhl. (*P. commutatum*, Schultz. *Vasey, Cat. of* 1885, p. 9.)

Woods; not rare. July.

Resembles broad-leaved forms of *P. dichotomum*, L. Culms are 30–40 cm.; smooth; leaves elongated, lanceolate-acuminate, 8–15 cm. long, 1–1½ cm. wide; scabrous near the margins, and ciliate with long hairs near the base and along the sheaths; panicle rather ample; spikelets 2 mm. long, slightly hairy. Casc. Woods. Fall Creek Woods. Near South Hill Marsh. Near White Church. Coy Glen, (*Prof. W. Trelease*)!

1170. P. xanthophysum, Gray.

High hills in dry woods; rare. July 1–25.

Summit of the South Pinnacle, Caroline. Thacher's Pinnacle, W. Danby. (Near Painted Post, *Miss Arnold.*)

1171. P. dichotomum, L. (H. and C.)

Woods and dry banks; common and variable. July, Aug.

Among the less hairy forms belonging to the type is the provisional var. *viride*, Vasey, growing in woods slender, with narrow leaves which spread from the culm at right angles.

1172. P. dichotomum, L. var. nitidum, Gr.

Casc. and Fall Creek Woods, and elsewhere; frequent.

1173. P. dichotomum, L. var. pubescens, Vasey, (*P. pubescens* ? Man. 649,) may at present stand for a large number of more or less hairy forms frequent in this region. The hairs in some, extend up the peduncle into the panicle; all have hairy flowers. This species needs a thorough revision.

1174. P. depauperatum, Muhl. (H. and C.)

Woods and banks; frequent. June.

1175. P. CRUS-GALLI, L. BARN-YARD GRASS. (H. and C.)
Cultivated grounds, shores, etc. ; very common. Aug.–Sept.
Beside the common form it varies into the following:

1176. P. CRUS-GALLI, L., var. MUTICUM, Vasey.
The flowers are almost wholly awnless, the clusters close and dark, often blackish-purple. Myers Point. Near Union Springs, Cayuga and Montezuma.

1177. **P. Crus-galli**, L., var. **hispidum**, Gray, (clearly the *P. hispidum*. Muhl., *Descript. Uberior Gram.* p. 107 ; probably *P. echinatum*, Trin., but not clearly that, ; see fig. 162, in *Species Graminum.*)
Inlet Marshes. Cayuga Marshes, where its large violet-colored panicles are very showy. Probably indigenous.

P. MILIACEUM, L.
Occasionally spontaneous. By the old roads on the marsh north of Ithaca. Aug.

420. SETARIA, Beauv. FOXTAIL.

1178. S. GLAUCA, Beauv. (H. and C.)
Fields ; common. July–Sept.

1179. S. VIRIDIS, Beauv. (H. and C.)
Fields ; common. July–Sept.

1180. S. VIRIDIS, Beauv., var. PURPURASCENS, Peck.
Spike narrower, bristles few and purplish. The spike and flowers of our form are still smaller than Dr. Peck's type specimens. Near Union Springs.

421. SPARTINA, Schreb.

1181. **S. cynosuroides**, Willd. CORDGRASS.
Near Cayuga L. Aug, Sept.
Farley's Point, a few. Dwarf but rather abundant on Cayuga Marshes, north of Black Lake.

422. ZIZANIA, Linn.

1182. **Z. aquatica**, L. WILD RICE. (H. and C.)
The larger marshes, where it is frequent. July 25-Aug. 15.
Inlet marshes. Cayuga Marshes.

423. LEERSIA, Swartz.

1183. **L. Virginica**, Willd. (H. and C.)
Shaded places ; not uncommon. Aug.–Sept.
Near the Indian Spring. Negundo Woods. Near Fall Cr., Freeville and elsewhere.

1184. **L. oryzoides**, Swartz. CUT GRASS. (H. and C.)
Wet sedgy ground ; common. Aug.–Sept.

424. ANDROPOGON, Linn.

1185. **A. provincialis**, Lam. (*A. furcatus*, Muhl.) (H. and C.)
Dry gravelly banks ; frequent. Aug.–Sept.
Fall Cr. Casc. Cr. and elsewhere. Especially abund. along the lake-shore.

1186. **A. scoparius**, Michx. (H. and C.)
Dry soil ; common. Aug.–Sept.

[A. dissitiflorus, Michx. (*A. Virginicus*, L.,; Penn Yan, *Sartwell, Herb. and C.*]

425. CHRYSOPOGON, Trin.

1187. C. nutans, Benth. (*Sorghum nutans*, Man., p. 652. (H. and C.)
Dry banks; not uncommon. Aug. 15–Sept. 15.
Fall Cr., near Triphammer Falls. Six Mile Cr. Lake shore and elsewhere.

426. PHALARIS, Linn.

P. CANARIENSIS, L. CANARY GRASS.
Appears nearly every year on the campus and in waste places near Ithaca. Not established. July.

1188. P. arundinacea, L. (H. and C.)
Marshes, where it is frequent. June.
Especially on Inlet and Cayuga Marshes.

1189. * P. ARUNDINACEA, L. var. PICTA.
Established by road near steamboat landing, Ithaca. East of Varna, by railroad. Near Red-Mills Pond. Near Dryden L.

427. ANTHOXANTHUM, Linn.

1190. A. ODORATUM, L. SWEET-SCENTED GRASS.
Fields; infrequent, June.
Univ. campus. By road south of Beebe Pond. W. Dryden. Caroline Hills. Saxon Hill.

428. ALOPECURUS, Linn.

1191. A. PRATENSIS, L.
Scarce; a few places on the campus. May 20–30.

1192. A. GENICULATUS, L. (C.)
Scarce; Canoga Marshes. Cortland Marl Ponds.

1193. A. geniculatus, L. var. aristulatus, Munro. (*A. aristulatus*, Mx. Man., p. 608.) (H. and C.)
Marshes and near peat-bogs; frequent. June.
Fall Creek and Inlet Marshes. South Hill Marsh. Dryden-Lansing Swamp. Summit Marsh and elsewhere.

429. ORYZOPSIS, Michx.

1194. O. melanocarpa. Muhl. (H. and C.)
Rocky places or ravines; where it is frequent. July 15–30.

1195. O. asperifolia, Michx. MOUNTAIN RICE. (H. and C.)
Woods along ravines or hills; frequent. May 10–20.
Beside the above habitat it also occurs in the rich woods near Freeville and the Round-Marshes.

1196. O. Canadensis, Torr. (C.)
Banks of ravines; rare. June 1–15.
Taughannock; south side, east of the Cataract House, 1882, (*F. C. Curtice.*) Also between the Cataract House and the Falls; and on "Eagle Cliff," above the Falls, 1884.

430. MILIUM, Linn.

1197. M. effusum, L. (H. and C.)
Swamps and wet places in ravines; infrequent. June 1–20.

Fall Cr. ravine and above Forest Home. Dryden-Lansing Swamp. Malloryville. Round Marshes. Michigan Hollow and elsewhere.

431. MUHLENBERGIA, Shreb.

1198. **M. sobolifera**, Trin. (H. and C.)
Rocky places; not common. Aug.
Fall Cr. Chiefly on the lake-shore declivities, where it grows in beds. The leaves, when mature, stand at right angles from the stem.

1199. **M. glomerata**, Trin. (C.)
Sphagnum swamps, and in ravines; frequent. Aug.–Sept.
Buttermilk ravine. Larch Meadow and elsewhere Also in dry woods on the Pinnacles near White Church.

1200. **M. Mexicana**, Trin. (H. and C.)
Shaded places; common. Aug.

1201. **M. Mexicana**, Trin. var. **filiformis**, Vasey, is in Fall Cr. and other ravines.

1202. **M. sylvatica**, Torr. and Gray. (H. and C.)
Moist soil; frequent. Aug.

1203. **M. Willdenovii**, Trin. (H. and C.)
Rocky places; not common. Aug.
Six Mile Creek, at the "Narrows." Enfield ravine. Thacher's Pinnacle and elsewhere.

1204. **M. diffusa**, Shreb. NIMBLE WILL. (H. and C.)
In old orchards and fields; frequent. Sept.–Oct.
University Grove, and elsewhere on East Hill. Frequent on the lakeshore points; "Sheldrake," (*Dr. Gray*, 1831.)

432. BRACHYELYTRUM, Beauv.

1205. **B. aristatum**, Beauv. (H. and C.)
Ravines and low woods; frequent. July.
The form "*var. Engelmanni*," was found in Fall Cr. by Mr. Hine.

433. PHLEUM, Linn.

1206. P. PRATENSE, L. TIMOTHY. (H. and C.)
Fields; common. June.
Since 1872 we have noticed autumnal specimens of this species with spikes bearing numerous viviparous flowering glumes ("lower palets.") It seems to be a case perfectly parallel to that of *Poa alpina*, on which Mohl based his important theory of the structure of the spikelet. The flowering glume develops into a complete leaf with sheath, ligula, and a bright green blade 1–1½ cm. long. The plants are usually growing in moist soil, and only the second growth of the season becomes viviparous. The same monstrosity appears rarely in the autumnal spikes of *Dactylis*. Viviparous *Phleums* have been observed in the Hudson R. valley by Gerard and in New Eng.

434. SPOROBOLUS, R. Br.

1207. **S. vaginæflorus**, Torr. (*Vilfa vaginæflora*, Man., p. 609. (C.)
Sandy or gravelly soil. Sept.
Near Fall Cr. mills and near Triphammer Falls. Abundant on the lakeshore banks, near Ludlowville, Aurora, Sheldrake, etc.

435. AGROSTIS, Linn.

1208. **A. perennans**, Tuck. (H.)

Woods and ravines; frequent. July–Sept.

1209. **A. scabra**, Willd. (H. and C.)

Old logs in marshes and exsiccated places; infrequent. July–Aug.

Eagle Hill. Michigan Hollow and other marshes.

1210. **A. vulgaris**, With. RED TOP. (C.)

Fields; common. The typical form—slender and with few branches to the panicle, occurs sparingly in pastures east of McLean, in Danby, etc. The cultivated Red Top is usually much more robust.

1211. **A. vulgaris**, With., var. **alba**, Vasey, (*A. alba,*) L. (H. and C.)

Near the steamboat landing, Ithaca; Lockwood's Flats and elsewhere.

436. CINNA, Linn.

1212. **C. arundinacea**, L. (H. and C.)

Swampy woods; frequent. Aug.

Fall Cr. near the lake. Swamps of Freeville and elsewhere.

1213. **C. pendula**, Trin., (*C. arundinacea*, L. *var. pendula*, Gr.)

Shaded wet ravines and deep swamps; scarce. July, Aug.

Fall Cr., in the Triphammer ravine. Near Beaver Creek. Near Locke Pond. A peculiarly delicate form with smaller flowers than the typical one occurs in Michigan Hollow Swamp.

437. DEYEUXIA, Clair.

1214. **D. Canadensis**, Beauv. (*Calamagrostis Canadensis, Beauv.*) BLUE-JOINT. (H. and C.)

Open marshes; common. June 20–July 10.

Inlet Marshes. In Dryden and Danby. Abundant on the Cayuga Marshes. Occasional in ravines. The awn arises from much below the middle of the palet in specimens from Farley's Point.

[**D. confinis**, Kth., (*C. confinis*, Nutt.) "Penn Yan," *Sartwell, H. and C.*]

1215. **D. Porteri**, Vasey, (*C. Porteri*, Gr.)

Local and very sparingly on Thacher's Pinnacle near W. Danby, in woods of Rock Oak, Hickory, with Vacciniums, Azaleas, etc., 1881. These specimens are less robust than the type; but after a careful examination of plants, from our locality and from Pennsylvania, and an interesting correspondence with Prof'r Porter, the discoverer of the species, and with Dr. Vasey, to both of whom specimens were submitted, there remains but little doubt that *D. Porteri* is established as a N. Y. plant. It has hitherto been found only in a limited section of Pennsylvania, but Prof. Porter, who has collected more of it than any one else, agrees that our specimens should be referred to his species.

438. DESCHAMPSIA, Beauv.

1216. **D. flexuosa**, Vasey. (*Aira flexuosa*, L.) HAIR GRASS. (H. and C.)

Dry or rocky slopes; scarce. June 20–July 20.

The Pinnacles above White Church valley. Cayuga L. on cliffs north of Kings Ferry; on Utts Point; north of Aurora.

1217. D. cæspitosa, Beauv. (*Aira cæspitosa*, L.)
Near limestone or marl; rare. July 1–20.
Marl Creek meadows and half mile west. Farley's and Utts Points, Cayuga L.

HOLCUS LANATUS, L., grew for several years on the south part of the Campus. ("Gorham," *Sartwell, H. and C.*)

439. TRISETUM, Torr.

1218. T. palustre, L. "Ithaca," (*Sartwell, Herb. Ham. Coll.*) The specimen is a genuine *T. palustre*, but the species is not now known here.

440. AVENA, Linn.

1219. A. striata, Michx. (C. by Dr. Wright.)
Ravines and swamps, where it is not uncommon. May 20–June 20.

A. SATIVA, L. COMMON OAT. Often seen on Cayuga L. shore.

441. DANTHONIA, DC.

1220. D. compressa, C. F. Austin.
Open woods or shores; not uncommon. July.
Dart Woods. Turkey Hill. Near Danby. Shore of Dryden L. Shore of Locke Pond. Distinguished by its usually long, flat leaves sometimes overtopping the culm, and by the awned lateral lobes of the flowering glume.

1221. D. spicata, Beauv. (H. and C.)
Dry banks and hills; common. June.

ELEUSINE INDICA, Gærtn., was found, 1874, on Aurora St., Ithaca; not permanent. "Waterloo, N. Y." (*Sartwell, Paine's Cat.*, p. 168.)

442. DIPLACHNE, Beauv.

1222. D. fascicularis, Benth. (*Leptochloa fascicularis*, Gray.)
Brackish or saline soil; rare. Aug.–Sept.
"Cayuga Marshes," (*Dr. C. H. Peck.*) Montezuma, near the salt well, also in pasture, near Salt Cr.

443. PHRAGMITES, Trin.

1223. P. communis, Trin. REED. (H. and C.)
The larger marshes; Oct. Sparingly on Summit Marsh; but abundant throughout the Canoga, Cayuga and Montezuma Marshes. The handsome plumes of fruit become conspicuous about the middle of Oct.

444. EATONIA, Raf.

[E. obtusata, Gray; "Seneca Lake, *Gray*,"—see Paine's Cat. p. 168; and "Yates Co.," *Sartwell Herb.*]

1224. E. Dudleyi, Vasey, nov. sp.
"Culms 2 to 2½ ft. high, very slender; cauline leaves only 1 to 2 inches long, abrubtly acute, spreading: the radical ones 3 to 6 inches long; panicle slender, nearly linear, 3 to 6 inches long, the branches in twos or threes below, and mostly appressed; the upper empty glume obovate, obtuse, broadly scarious on the margins, and reach-

ing to the middle of the second floret, smoothish ; the lower glume broader than in *E. Penn.* and nearly as long as the first floret ; flowering glumes linear-oblong, obtuse or abruptly acute, the second one hispidulate ; palet scarious, bifid at the apex."

"Easily distinguished from *E. Pennsylvanica* by the slender culms and panicle, the very short cauline, leaves, the longer and wider lower glume, the more obtuse upper one, and the shorter, obtuser flowering glumes. Grows in *dry open woods.*"

"Michigan, New York, Long Island, Penn., D. C., Va. and N. Carolina."

The above species was collected in Cascadilla Woods in 1876 and referred to *E. Pennsylvanica.* Again collected there in June, 1881, its peculiarities were first observed seriously. In 1882 Mr. Curtice obtained it from South Hill, and it occurs in both dry and moist soil on most of our wooded ravine-slopes ; occasionally in moist soil in more open places. Beside the range given above by Dr. Vasey, the writer has specimens from near Pittsburg, Pa., and it is probably in all the larger herbaria under other names.

On consulting Dr. Torrey's Herb. at Columbia Coll. in 1883, in order to determine the position of this form, it was found,—together with genuine *E. Pennsylvanica,* referred to the latter species ; and it is now evident that Torrey's description of *E. Pennsylvanica* in the Flora of N. Y., II, p. 469, was almost wholly founded on this, and not on the true form.

1225. E. Pennsylvanica, Gray. (H. and C.)

Marshes, shores and wet cliffs ; frequent. June 20–July.

445. ERAGROSTIS, Beauv.

1226. E. reptans, Nees.

Wet sandy shores ; not common. July–Sept.

Eddy Pond, Six Mile Cr. Fall Cr. Cayuga Lake near Ludlowville and elsewhere. "Cayuga L., Gray," (*Sartwell, H. and C.*)

1227. E. MAJOR, Host. (*E. pœoides*, var. *megastachya*, Man., p. 631.) (H. and C.)

Roadsides ; occasional. Aug.–Sept.

Near Armory. Streets of Ithaca. Near the Nook. Near Coy Glen.

1228. E. capillaris, Linn. (C.)

Dry banks ; infrequent. Aug.–Sept.

Near Fall Cr. Mills. North of the Nook. Mouth of Salmon Creek ravine. Utts Point. A very small reduced form was found in the dry soil of the Circus Common.

446. DACTYLIS, Linn.

1229. D. GLOMERATA, L. (H. and C.)

Fields and borders of woods ; common. June.

Specimens with proliferous flowering glumes found on Buffalo St., Ithaca, Oct., 1884.

CYNOSURUS CRISTATUS, L., was collected on Cascadilla lawn, 1878–1885.

447. Poa, Linn.

1230. P. annua, L. (H. and C.)
Roadsides and yards; frequent. May-Oct.

1231. P. compressa, L. (H. and C.)
Dry banks and woods; common. June–Aug.
Torrey's *var. sylvestris* is frequent in woods.

1232. P. serotina, Ehrh. (H. and C.)
Wet meadows, usually; frequent. June–July.
It occasionally appears in dry woods, growing singly. High banks near Ithaca Falls. Casc. Woods. High hills in Danby, etc.

1233. P. pratensis, L. Ky. Blue-grass. (H. and C.)
Fields; common. June.

1234. P. trivialis, L.
Marshes and fields, and the deep swamps. June.
From the large number of swamp stations, it is probably indigenous in this region.

1235. P. sylvestris, Gray.
Slopes of ravines; rare. June.
Below Green-Tree Falls—the genuine form.

1236. P. sylvestris, Gray, var. palustris.
Sphagnum bogs and cold swamps. Round Marshes. Michigan Hollow. Wyckoff swamp. Culm weak and slender, branches of the panicle, in twos and threes deflexed, otherwise like the type. A much larger rather robust form grows in Round Marshes, and in Dryden-Lansing Swamp.

1237. P. debilis, Torr. (H.)
Dry woods; frequent. May 20–June.

1238. alsodes, Gray. (H. and C.)
Ravines—Fall Cr., Six Mile Cr., and especially in the deep swamps, like Beaver Cr. and Freeville swamps.

448. Glyceria, R. Br.

1239. G. Canadensis, Trin. Rattlesnake Grass.
Marshes; rare. Summit Marsh. "Junius," (*Sartwell, H. and C.*) July.

1240. G. elongata, Trin.; doubtful and overripe specimens from north of Freeville; and west of Locke Pond, (*F. C. Curtice,*) probably belong here.

1241. G. nervata, Trin. (H. and C.)
Marshy ground; common. May–June.
This species is variable, the purple-flowered specimens with large spikelets, appear quite different from those with the smaller green spikelets.

1242. G. pallida, Trin. (H. and C.)
Marshes in water; not common. June.
Near the Corner-of-the-lake. Cayuta L. Danby, in Jennings Pond.

1243. G. arundinacea, Kth. (*G. aquatica*, Man., p. 627.) (H. and C.)
Wet meadows; common. June.

1244. G. fluitans, R. Br. (H. and C.)
Ditches and pools; not common. June.
About Ithaca. Summit Marsh. Dryden-Lansing Sw., and elsewhere.

1245. G. acutiflora, Torr.
Standing pools and marshes. June.
"Ithaca," (*Sartwell, H. and C.*) Marsh near the lake. South Hill Marsh, etc. More abundant than the preceding species.

449. FESTUCA, Linn. FESCUE GRASS.

1246. F. tenella, Willd. SLENDER FESCUE. (H. and C.)
Banks of ravines and dry woods; frequent. June.
Case. and Fall Cr. Woods and elsewhere. Awns often ⅓ longer than the flowering glume instead of "shorter or equalling" it.

1247. F. ovina, L.
Lawns (introduced) in the University Grove, on State and Seneca Streets and elsewhere. In woods (possibly native) north of King's Ferry, on Utts Point and banks of the lake north of Union Springs and of Aurora. May–June.

1248. F. DURIUSCULA, Linn. (C.)
Lawns; in the University Grove; Case. Place. Utts Point.

1249. F. ELATIOR, L. (H. and C.)
Fields; common. June.

1250. F. nutans, Willd. (H. and C.)
Woods; frequent. June.
In Case. Woods and generally distributed throughout our limits.

450. BROMUS, Linn.

1251. B. SECALINUS, L. CHESS. (H. and C.)
Fields and roadsides; frequent. June.

1252. B. RACEMOSUS, L.
Scarce; near McLean, 1879; near Lehigh Valley depot; near Lick Brook. Aurora.

1253. B. Kalmii, Gray.
Ravines and open meadows; scarce. June.
Six Mile Cr., above the Sulphur Spring, and near Green-Tree Falls. Larch Meadow. Near Beaver Cr.

1254. B. ciliatus, L. (C.)
Ravines and river banks; abundant. June–July.

1255. B. ciliatus, L. var. purgans, Gr., is in Turkey Hill Woods; near Ludlowville and elsewhere.

1256. B. ciliatus, L. var. ———, approaching some of the Rocky Mt. forms (according to Dr. Vasey,) occurs in our sphagnum bogs or wet meadows. The plants are low, light-green; the panicle peculiarly chaffy in appearance, light-colored, and the flowering glumes smooth on the back but strongly ciliate. It is abundant, in Round Marshes, along Locke Pond and elsewhere.

1257. B. STERILIS, L. (H. and C.)
Rare; June. Taughannock near the landing, 1884, (*F. V. Coville.*) !

451. LOLIUM, Linn.

1258. L. PERENNE, L. DARNEL.

Lawns and fields; local. June–Oct.

Near Casc. Place since 1879. Field south of "Edgewood," rather abundant. E. of Dr. Law's. "Geneva," (*Sartwell, H. and C.*)

HORDEUM MURINUM, L., appeared one year, 1882, on the Fiske McGraw grounds, (*F. L. K.*)!

HORDEUM JUBATUM, L., grew on the south part of the Campus, 1878–1881.

452. AGROPYRUM, Beauv.

1259. A. repens, Beauv., (*Triticum repens*, L.) COUCH GRASS. (H. and C.)

Roadsides, and dry fields; frequent. July.

On the Campus, near the "Diamond," is a bed of low, glaucous plants, almost wholly awnless.

1260. A. caninum, R. and S., (*T. caninum*, L.) (H. and C.)

Dry woods and banks of ravines; frequent. July.

A variable species, often approaching *T. violaceum* in the character of the awns. A very slender straight-awned form is found on the high wooded hills of Danby and Caroline.

1261. A. caninum, R. and S., var. ———, occurs near Lowery's Pond in the marsh, and approaches *T. violaceum*, in the somewhat purplish flowers, the erect spike and short and straight or even spreading awns.

453. ELYMUS, Linn. RAY-GRASS.

1262. E. Virginicus, L. (H. and C.)

Dry banks of ravines, and river-banks; frequent. July-Aug.

Flowers are often hairy, instead of "smooth."

1263. E. Canadensis, L. (H. and C.)

River-banks and shores; frequent. July.

1264. E. Canadensis, L., var. glaucifolius, Gr.

Especially abundant at the foot of the cliffs all along the lake shore.

1265. E. striatus, Willd. (H. and C.)

Fall Cr. Casc. Cr. Enfield ravine. Cayuga L. shore.

1266. E. striatus, Willd., var. villosus, Gr.

Negundo Woods. Near Salmon Cr. Near Shurgur's Glen and elsewhere near the lake; not rare.

454. ASPRELLA, Willd.

1267. A. Hystrix, Willd., (*Gymnostichum Hystrix*, Schr.) (H. and C.)

Hedges and borders of woods; frequent. July.

SECALE CEREALE. Willd. RYE. Frequently springs up by roadsides.

## GYMNOSPERMÆ.

### CONIFERÆ.

455. Thuya, Tourn.

1268. T. occidentalis, L. Arbor-Vitæ. White Cedar. (H. and C.)

In "cedar swamps," or marshes; scarce. May 10–20.

A half mile northwest of Black Lake, in a swamp north of Lay's Iron Spring,—a large number. Scattered trees occur about Lowery's Pond.

456. Juniperus, Linn.

1269. J. communis, L. Juniper. (C. by Dr. Wright.)

Rare; May 1–15. Three stations are known: In a pasture west of Eagle Hill; South Hill, north of S. S. 420; W. Danby, near the western base of Thacher's Pinnacle, (*F. V. Coville.*) As the plants in all cases are single and staminate, possibly the species is not truly indigenous here.

1270. *J. Virginiana, L. Red Cedar. (H. and C.)

Rocky banks or hillsides; not uncommon. Apr. 15–30.

Fall Cr. and other ravines, and abundant along the banks of Cayuga L. A fine tract of them on the hillsides south of Larch Meadow.

457. Taxus, Tourn.

1271. T. Canadensis, Willd., (*T. baccata*, L., var. *Canadensis*, Man., p. 474.) Ground Hemlock. Yew. (H. and C.)

Along ravines and in cold swamps; frequent. Apr. 20–May 10.

Among the swamp habitats are Ellis Hollow Swamp, Michigan Hollow and Bear Swamp.

458. Pinus, Tourn.

1272. P. strobus, L. White Pine. (H and C.)

Woods and hills; frequent. June.

Once the principal forest tree over large areas in this vicinity. Occasionally single first-growth pines are still seen, rising far above the surrounding forest. In Rhodes Woods there are many such; but the only undisturbed tract is "Signer's Woods," about forty acres in extent, largely of pines, and lying in the bottom of the valley north of Summit Marsh. There are many magnificent trees 130°–150° in height.

1273. P. resinosa, Ait. Red Pine. Norway Pine. (H. and C.)

Dry banks and declivities; not common. June.

North bank of Six Mile Cr., below Well Falls; on the promontory east of the Sulphur Spring. Mouth of Coy Glen. Frequent on north bank of Buttermilk ravine. High bank north of Lucifer Falls. Abundant on the high ridge east of W. Danby. On Ball Hill. The largest groups are on the declivities between White Church and Brookton. East shore of Cayuga Lake, from McKinney's to Ludlowville. Wanting on the west shore except at Taughannock and Trumansburg ravines.

1274. **P. rigida**, Mill. PITCH PINE. (H. and C.)
Hills or dry soil; frequent. June.
Campus, Cascadilla Woods and elsewhere.

459. PICEA, Link.

1275. **P. nigra**, Link. (*Abies nigra*, Poir.) BLACK SPRUCE. (C.)
Scarce; May. Enfield "Spruce Swamp." Woodwardia Swamp, where the trees are dwarfed.

460. TSUGA, Endl.

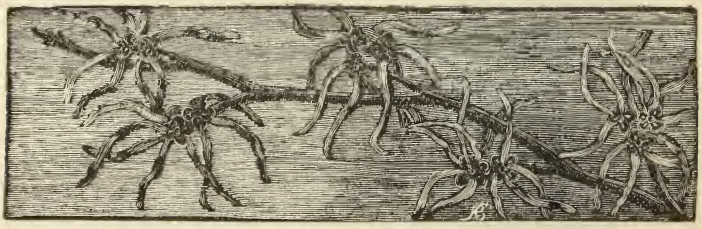
1276. ***T. Canadensis**, Carriere. (*Abies Canadensis*, Michx., HEMLOCK. (H. and C.)
Ravines and swampy woods; common. June.
The central portion of Round Marsh Woods is largely made up of first-growth hemlocks, where some of the trees attain splendid proportions.

461. ABIES, Tourn.

1277. **A. balsamea**, Miller. FIR. BALSAM FIR. (H. and C.)
Scarce; May. Fir-Tree Swamp northeast of Freeville. Also a few trees on West side of S. C. railroad. Near the mouth of Mud Creek, formerly. Fir-Tree Swamp southeast of Danby village.

462. LARIX, Tourn.

1278. **L. Americana**, Michx. LARCH. TAMARACK. (H. and C.)
Marshes and swamps; infrequent. May 1–15.
Larch Meadow formerly; still among the cedars south. Freeville, (*Dr. Jordan.*)! Mud Cr. Woodwardia Swamp. Fir-Tree Swamp east of Danby. Michigan Hollow,—large trees. W. Junius, Tamarack Swamp and near the ponds.



# Additions and Corrections.

p. vii. For "*Aster sagithfolius*," read "*Aster sagittifolius.*"

p. xi., line 16. For "plant" read "plants."

p. xiv., line 20. For "*Lathyrus palustris*" read "*Lathyrus palustter.*"

p. xv., line 7 from bottom. For "eastern" read "south-eastern."

p. 2. Erase all under "13ª."

p. 3. For "*R. alismæfolias*," read "*R. alismæfolius.*"

p. 12, no. 94. For "*P. graveoleus*" read "*P. graveolens.*"

p. 12, no. 96, For "*L. Majoi*" read "*L. major.*"

p. 14, no. 107. For "sepels" read "sepals," and for "placenta" read "placentæ."

p. 19. Before genus "72, AILANTHUS" write Order "SIMARUBACEÆ."

p. 24, no. 197. For "*Robinia Psevdacacia*" read "*R. Pseudacacia.*"

p. 26, no. 223 and no. 224. For "*Lathyrus palustris*" read "*Lathyrus paluster.*"

p. 27, no. 229. For "*G. triacanthus*" and "*G. triacanthos.*"

p. 42, no. 381. For "*N. multiflora*" read "*N. sylvatica*," Marsh.

p. 46, line 3. For "*Dipcacus*" read "*Dipsacus.*"

p. 58, no. 572. After "S. S. 420" add: "also 1 mile southwest of W. Junius."

p. 67, no. 657. For "*S. nodosa*, L." read "*S. nodosa*, L., *var. Marilandica*, Gray."

p. 68, no. 672. For "*G. Pedicularia*" read "*G. pedicularia.*"

p. 72, no. 710. For "*M. Clinopodia*" read "*M. clinopodia.*"

p. 76, no. 743 and and 744. For "*B. rubrum*" and "*B. Capitatum*" read "*Chenopodium rubrum, L.*" and "*C. capitatum*, Wats."

p. 99, no. 928. For "*M. Virginica*" read "*M. Virginiana.*"

p. 117, no. 1134. Strike out "*var. elongata*, Torr."

p. 124, no. 1206. For "in Hudson R. valley, by Gerard," read "on Staten Id, by Britton and Hollick.

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# A CATALOGUE

— OF —

# THE NATIVE AND NATURALIZED PLANTS

OF THE

# CITY OF BUFFALO AND ITS VICINITY.

BY DAVID F. DAY.

BUFFALO:
BAKER, JONES & CO., 222 WASHINGTON STREET.
1883

Reprinted from the Bulletin of the Buffalo
Society of Natural Sciences.
Vol. IV. 1882-1883.

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# The Plants of Buffalo and its Vicinity.

BY DAVID F. DAY.

It is quite certain that before the establishment of the BUFFALO SOCIETY OF NATURAL SCIENCES no one had undertaken to investigate the Flora of Buffalo and determine what plants it comprised.

It is true that at rare intervals some of the early botanists and collectors had visited our neighborhood. As long ago as 1749, KALM, a contemporary and correspondent of LINNÆUS, made an excursion to the Falls of Niagara, and, undoubtedly, collected some of the remarkable plants of that locality. In 1806, PURSH, the author of "Flora Americæ Septentrionalis" (as we are informed in his preface) "traversed the extensive and highly interesting country of the Lesser and Great Lakes." In the following year, MICHAUX, the younger, while engaged in a botanical exploration in western New York, traveled from Batavia to Buffalo, recording some interesting observations respecting our primæval forest; and, some fifteen or twenty years later, DRUMMOND and DOUGLASS, distinguished botanical explorers, made collections of plants at Niagara. Unfortunately, however, only the scantiest and most unsatisfactory record reaches us of the labors and discoveries of these pioneers of botanical science in this vicinity.

Probably the earliest botanist who had a permanent residence in Buffalo, was Dr. JOHN A. KINNICUTT:—in 1828, one of the physicians of the village. In "The Flora of the State of New York," TORREY makes acknowledgement of having received from Dr. KINNICUTT some of our more notable plants: but, aside from this brief mention, we have no account of his botanical labors.

Upon the organization of the BUFFALO SOCIETY OF NATURAL SCIENCES, in December, 1861, a Committee on Botany was appointed, consisting of the Hon. GEORGE W. CLINTON, the Society's first President, Dr. CHARLES C. F. GAY, and the compiler of the present Catalogue. In the spring of 1862, the Committee began an investi-

gation of the Flora of Buffalo and the formation of an Herbarium, for its illustration. At the close of the year 1863, two seasons having been spent in the field, the Committee had detected and identified 936 species, or well-marked varieties, of phænogamous plants. A list of these, and of 40 species of vascular cryptogams, which had also been collected, was prepared by Judge CLINTON and published in the spring of 1864.

The investigation thus begun, although not always prosecuted with the assiduity which at first characterized it, has never since ceased. At the present time the plants which have been collected in our region, and of which specimens are contained in the Herbarium of the Society, amount to not less than 2800 species. It is confidently believed that except in the lower orders of the *Cryptogamæ*, the number of species belonging here, and which still remain to be discovered, is comparatively small. Hence, the Society has deemed the present time a proper one to give to the botanical world a Catalogue of "THE PLANTS OF BUFFALO AND ITS VICINITY."

In preparing such a catalogue for publication, it has been thought well that it should embody the results (so far as they have proved accessible) of the efforts of all persons, whether connected with the Society or not, who, at any time, or in any degree, have contributed to make a knowledge of our Flora more complete. For all such assistance it has been intended that due credit should be given. But it would be unpardonable if the declaration were not here placed upon record, that to the tireless energy and zeal of the Society's first President, we are indebted for much the largest and most valuable part of the labors epitomized in the Catalogue. From the foundation of the Society until his recent removal from our city, Judge CLINTON freely gave to the exploration of our Flora, not only the assiduous attention of a profound and discriminating mind, but also such unremitting, physical labor as only the most devoted student of nature could have bestowed. By his hands, specimens of all the plants, except Algæ, here enumerated, as well as some 20,000 more, the product of other regions, procured by him for the Society, have been labeled and arranged in its botanical collections, henceforth, in grateful recognition of his services, to be known as "THE CLINTON HERBARIUM."

The City of Buffalo is situated at the foot of Lake Erie, in latitude 42° 52′ 46.26″ N., and longitude 1° 52′ 57.1″ W. of Washington:—the Lighthouse, at the mouth of Buffalo River, being taken as the point of observation. Its mean annual temperature, deduced from the daily observations of more than twenty years, is 48.39°, Fahrenheit. Its mean temperature for the summer months averages 68.80°, and for the winter months, 30.22°. Its changes of temperature, although somewhat sudden, are in fact neither as extreme nor as frequent as those of many places not very distant. Usually, in summer, Montreal and Quebec have warmer days, and in winter, St. Louis and Memphis, colder ones. Philadelphia, lying nearly 180 miles more southerly, has a higher annual temperature of only six degrees.

The cause of this equability of climate is easily discovered. Within the limits of Buffalo are eight miles of the shore of Lake Erie and Niagara River. The waters of the lake, warmed by the summer, later in the year impart their heat to the atmosphere, and thus for a while, retard the approach of winter. The same cause, acting in the opposite direction, delays the spring, (often for a considerable time), and always moderates the heat of summer. But these effects extend inland only a few miles.

The height of Lake Erie has been ascertained to be 573 feet above the ocean. The City of Buffalo nowhere occupies an elevation of more than 105 feet above the lake, and probably its average height does not exceed 30 feet. But at the distance of 20 or 30 miles to the east and south, the ground is much higher; and there, as might be expected, we find a much lower mean annual temperature. At Salamanca, in Cattaraugus County, distant 50 miles from Buffalo, the mean annual temperature is only 45°, Fahr.

For the last twenty-four years the average rain-fall at Buffalo has been 36.47 inches. But towards the south and southeast the usually lower temperature is accompanied by an increase in the annual rain-fall. At Salamanca, above mentioned, it is 44 inches. Whilst it may well be supposed that at all times, but especially in summer, the lake imparts to the atmosphere some degree of moisture, nevertheless, the climate at Buffalo, as compared with those of places not very remote, must be regarded as dry. It may be of interest to note that in Pennsylvania, and the middle and southerly

portions of New York and through nearly all New England, the annual rain-fall is from ten to fifteen inches greater.

The natural botanical district, in which the City of Buffalo is situated, is a part of the basin of Lake Erie. For the sake of convenience and distinction, it will here be called the ERIE DISTRICT.

Towards the south and southeast, it finds its boundaries in a range of highlands, distant from thirty to fifty miles from Buffalo, beyond which the streams flow into the Allegany, and thence into the Ohio and the Mississippi. These highlands constitute, in fact, a part of the northeasterly limits of the Mississippi Valley. That region, so far as it comes within the scope of the Catalogue, will be called the ALLEGANY DISTRICT.

In Chatauqua County, the limits of the Erie District are very narrow. Between Lake Erie and the head of Chatauqua Lake, the interval of land is but seven and a half miles wide. Here the dividing ridge approaches so near Lake Erie as to leave only a strip of land less than four miles in width. Yet the summit of the ridge is 891 feet above Lake Erie. Eastwardly its height increases. Between Chatauqua Lake and Connewango Creek the elevation is reached of 1401 feet, and between Connewango Creek and Ellicottville, that of 1570 feet. Upon the summit, in several places, a conglomerate of the coal period is found, *in place*. In Chatauqua County, almost upon the crest of the dividing land, a series of lakes appears. The largest of these is Chatauqua Lake, 726 feet above Lake Erie. Northerly and northeasterly from Chatauqua Lake are Bear, Cassadaga and Mud Lakes, respectively 755, 732 and 833 feet above Lake Erie, and as truly sources of the Mississippi as the far distant Itasca.

The easterly boundary of the Erie District is another range of highlands, which divides it from the basin of the Genesee River:—here termed the GENESEE DISTRICT. Towards the southeast these elevations meet and unite with those which separate the Erie from the Allegany District, and are as high. To the north they decline, but even at Batavia they have an elevation of about 300 feet above Lake Erie.

The northerly boundary of the Erie District is marked, both in New York and Canada, by that extraordinary exposure and elevation of rock, known in its vicinity as the "Mountain Ridge," and to which Canadian geologists have given the name of the "Niagara

Escarpment." Eastwardly, it is first observed in Monroe County, a few miles west of Rochester. From thence it extends westerly through the whole of Orleans and Niagara Counties, constituting their highest elevations. In Orleans County, Oak Orchard Creek and its tributaries, in their descent to Lake Ontario, flow over it in various places. Niagara River has excavated through it its stupendous chasm. In its westerly course, as well in New York as in Canada, it constantly rises. At Lewiston it is 374 feet above Lake Ontario, and at Ancaster, near Hamilton, it reaches the height of 510 feet. Almost from its very verge the surface of the ground, probably because of the dip of the subjacent rock, slopes southerly. North of the Mountain Ridge the surface descends rapidly, and an interval of comparatively level land, varying in width from one to fifteen miles, and lying at the average height of about 200 feet above Lake Ontario, is soon reached. Its level below Lake Erie is about 141 feet. This territory, whether easterly or westerly of Niagara River, may be properly called the ONTARIO DISTRICT.

The Catalogue presents the name of all the plants which have been detected within a radius of fifty miles of Buffalo, and satisfactorily identified. The selection of such extended limits for a local catalogue was controlled by the important considerations that a smaller territory would not have brought within its cognizance the extreme southeasterly portions of the Erie District, and would have excluded several localities of great botanical interest, to the exploration of which especial attention has been given :—among them the rich and attractive region at Portage and the Falls of the Genesee.

The altitudes of many of the places named in the Catalogue have been indicated upon the map which accompanies it. It is supposed that these will prove of no little interest. The statement that in respect to the growth of plants a higher elevation is equivalent to a higher latitude here meets with some note-worthy confirmations. The proposition has been more definitely embodied in the formula, (susceptible of easy mathematical demonstration), that, between latitudes 35 and 60, an elevation of three hundred feet is equal to one degree of north latitude. The higher portions of the Erie, Genesee and Allegany Districts, lying been the parallels of 42° 10′ and 42° 30′ N. latitude, reach a height varying from 1500 to 2300 feet above the sea. The temperature, then, of these places, should be equiva-

lent to that of places upon the sea-coast, situated from three hundred and fifty to five hundred miles further northward :—as far, in fact, as Vancouver's Island or the mouth of the St. Lawrence. And here, upon these elevations, are found many plants well recognized as of a northern character :—Among them *Viola Selkirkii*, *Cerastium boreale*, *Ledum latifolium*, *Saxifraga azoides*, *Petasites palmata*, *Primula Mistassinica* and *Pinguicula vulgaris*.

In obedience to the same law, the lower level of the Ontario District is accompanied by a higher mean temperature than that of the Erie District. To this result, however, the great depth of Lake Ontario, and its direction, east and west, largely contribute. Within its limits the springs are somewhat earlier and the winters more moderate. Fruits ripen which near Buffalo are precarious. Along the southern shore of the lake, but in places somewhat beyond the limits of the Catalogue, two plants appear, of such southern character as *Nelumbium luteum* and *Linobium Spongia*. *Asimima triloba* flourishes in several places in Orleans and Niagara Counties, and it is not unlikely that *Cercis Canadensis* was formerly native there.

It may be stated, as a general proposition, that whatever of variety there is in the Flora of Buffalo and its vicinity has resulted only in a small degree, if at all, from geological situation. In fact, the subjacent rocks have contributed to the soil but little, either by abrasion or decomposition. The diversified materials, of which it is composed (excepting, of course, vegetable mould and the ancient and modern deposits of the lake and river) are recognized as having been brought from the north during the glacial period. To the south and southeast, however, the shaly rocks of the Hamilton Group have yielded, in some places, an argillaceous quota to the soil.

A few localities within our limits deserve especial notice.

A little north of Salamanca, in Cattaraugus County, occupying the summit of one of the highest hills, at the altitude of 2250 feet above the sea, are the remains of a conglomerate rock, of carboniferous age. The stratum varies in thickness from ten to thirty feet. By the slow processes of time, or, possibly, the operations of a more active agent, the rock has been broken up into rectangular masses, varying greatly in size : these, separating from each other, have left passages between, in which the imagination may easily discover the streets

and avenues of an ancient and ruined city. Hence the name by which the place is known:—"Rock City." Here, in sheltered spots, the snow and ice sometimes remain all the year long. And here *Epigæa repens*, *Ilex monticola*, *Listera cordata*, the two *Clintonias*, and other plants delighting in a cool and moist atmosphere, luxuriate.

The lake shore, on either side, affords plants well recognized as maritime :—as, for example, *Cakile Americana*, *Lathyrus maritimus*, *Euphorbia polygonifolia*, and *Triplasis purpurea*. *Hudsonia tomentosa*, attributed to the shores of the great lakes, has not yet been seen. But with the others grow some plants, not known to inhabit the sea-coast, and not met with inland; such as *Artemisia Canadensis*, *Gly cyrrhiza lepidota* and *Corispermum hyssopifolium*. With us, *Ptelea trifoliata*, and *Juniperus communis* are always lake-shore plants; and *Lithospermum hirtum* is rarely met with elsewhere.

The atmosphere at the Falls of Niagara is charged, in an extraordinary degree, with moisture. The spray of the cataract, descending in some places in an incessant shower, produces a fitting habitat for several species of plants, elsewhere, rarely, if ever, seen within our limits. *Hypericum Kalmianum*, *Parnassia Caroliniana*, *Lobelia Kalmii*, *Campanula rotundifolia*, *Utricularia cornuta*, *Gentiana crinita*, *Carex (Ederi, etc.*, here find congenial environment. At Portage, similar conditions sustain several of the same species, and beside them *Saxifraga aizoides*, *Primula Mistassinica* and *Pinguicula vulgaris*. In the gorge of both rivers, *Pterospora Andromedea* is found.

At Point Abino, on the Canadian shore of Lake Erie, at the distance of eleven miles from Buffalo, the sand of the beach has been drifted by the winds into dunes, sometimes a hundred feet in height, covered with trees of ancient growth. We have not met, in any other place, with *Corydalis flavula*, *Sisymbrium Thaliana*, the rose-colored *Arabis Drummondi*, nor, of late years, the most fragrant of our native plants, *Moneses uniflora*. Here, too, in the crevices of the corniferous limestone, lying but a little above the surface of the lake and kept constantly wet by its waters, *Linum striatum* is found, growing in abundance :—its only locality known in our vicinity. Near it occurs a form of *Hypericum Kalmianum*, with smaller corymbs, but larger flowers, than it produces at the Falls.

In the immediate vicinity of Buffalo only small patches of sphagnous bogs are found. But at the distance of ten or fifteen

miles, east or west, they are more frequently met with. In Chautauqua, Cattaraugus and Wyoming Counties they are abundant and sometimes of large dimensions. But the most extensive of those found east of Niagara River occur near the boundary line between Genesee and Orleans Counties, and have proved of peculiar interest. At Black Creek, in Canada, near where it enters Niagara River, a sphagnous swamp occurs, said to extend westward to Marshville, a distance of twenty-five miles. This, beyond question, is the largest one in our neighborhood. Along the lake shore, east of Point Abino, a small swamp of sphagnum is found which affords the nearest station of *Sarracenia purpurea*. While all these bogs present the same general characteristics, yet in the plants which they nourish there is considerable diversity. *Scheuzeria palustris* has been found in one at Hanover, Chautauqua County, and not elsewhere. *Microstylis monophyllos* and *Stellaria borealis* seem to occur only in a piece of wooded spagnum at Machias. *Andromeda polifolia* has been collected in an open bog at the same place, and in the one at Black Creek, but not elsewhere. *Lonicera oblongifolia* occurs in a marsh at Alabama, in Genesee County; and the marsh at Bergen, in the same county, alone, has yielded us *Cypreped*ium *candidum* and *Calypso borealis* :—of the latter, a solitary specimen. *Cypripedium arietinum*, diligently sought for in all these localities, has not yet been noticed.

That portion of the city which lies east of Delaware Street and north of Scajauquady's Creek, offers to the botanist a field of no little attraction. It early acquired the name of "Buffalo Plains." Here, throughout an extensive area, the corniferous limestone, occupying a position almost horizontal, approaches very near the surface. In places, the rock remains uncovered. But, notwithstanding the fact that the soil is very shallow, the region was once well-wooded; and it is still the home of some most interesting plants, rarely seen in other portions of our district. Among them may be named *Ranunculus fascicularis*, *Arabis perfolita*, *Viola palmata*, *Viola tenella*, *Ceanothus Americana*, *Staphylea trifolia*, *Saxifraga Virginiensis*, *Vaccineum stamineum*, *Pentstemon pubescens*, *Ipomœa pandurata*, *Frasera Carolinensis*, *Gentiana puberula*, *Asclepias tuberosa*, and *Scirpus Clintonii*. Its Sylva, also, has its peculiarities. Here, alone, we have met *Quercus Muhlenbergii*, *Q. prinoides* and

*Ulmus racemosa*. Nowhere else, with us, have *Quercus alba*, *Q. obtusiloba* and *Q. macrocarpa* appeared so abundantly.

The table, which is appended to the Catalogue, is designed to show, at one view, the number of genera and species in the several classes and orders of plants represented in our Flora. It will be seen that quite frequently one species is the sole representative of a genus or order, elsewhere in the world abundant and important. Especially is this true of the *Phænogamæ*. The entire number of species in that portion of the vegetable kingdom, included in the Catalogue, is 1,217, comprised in 106 orders. Of such species more than half the entire number belong to the following 10 orders:

| | |
|---|---|
| *Compositæ*, | 143 species. |
| *Cyperaceæ*, | 105 species. |
| *Graminæ*, | 88 species. |
| *Rosaceæ*, | 52 species. |
| *Leguminosæ*, | 45 species. |
| *Menthaceæ*, | 39 species. |
| *Ranunculaceæ*, | 36 species. |
| *Cruciferæ*, | 36 species. |
| *Orchidaceæ*, | 34 species. |
| *Liliaceæ*, | 31 species. |
| In all, | 609 species. |

The largest genera, in the same division of plants, are *Carex*, containing 72 species; *Solidago*, 20 species; *Aster*, 19 species; *Polygonum*, 16 species; *Salix*, 14 species; *Potamogeton*, 12 species; *Viola*, 11 species, and *Habenaria*, 10 species. Of trees, the genus *Quercus* contains the greatest number of species:—nine.

But it ought not to be inferred that the large number of species, contained in a particular genus, is any indication that the plants of such genus are especially abundant. *Tilia Americana* and *Tsuga Canadensis* undoubtedly constituted a much larger share of our original forest than the nine species of oak taken altogether.

It would be very far from the truth to assert that the entire territory included within the limits of fifty miles from Buffalo has been fully explored, and all its floral treasures brought to light. Much of Wyoming and Genesee Counties remains to be examined. Except

near Niagara River very little has been done in the Ontario District. In that part of the Erie District which lies west of Niagara River many localities remain to be investigated. But it is very safe to say that all our characteristic flowering plants and all our more abundant cryptogams are named in the Catalogue. The species hereafter to be detected within our limits will probably be found in scanty numbers and inhabiting very narrow bounds.

The naturalized plants of Buffalo are a large and increasing number. In accordance with usage their names appear in the Catalogue in small capitals. Several of them are of recent introduction:—a few as garden escapes, but the larger number through the agency of the southern and western railways. It is doubtful whether all these strangers will long remain; but it may be said that, in case they should disappear, they are likely to be introduced again in the same way. But some of them manifest a wonderful capacity of persistence and increase;—notably, *Artemisia biennis* (with us uniformly an annual), which, twenty years ago, was a rare plant, but is now met with in superabundance.

Early in the history of the Society, the investigation of our Lichens was generously undertaken by Miss Mary L. Wilson, then of our city, now of Haverhill, Mass. The success which attended her efforts in this difficult and neglected field, is demonstrated by the very valuable collection of plants of that order, constituting a part of the Herbarium. Miss Wilson has now enhanced the value of her labors by preparing with her own hand the list of the Lichens of Buffalo which makes a part of the Catalogue.

It is confessed, with much regret, that the investigation of the Algæ of Buffalo has been greatly neglected. The list of them which appears in the Catalogue is from the very competent hands of Prof. David S. Kellicott, of the State Normal School in this city. But, unfortunately, Prof. Kellicott has not been able to give to their study more than a small portion of his time, and that only during the last few seasons. It may, however, be confidently expected that, at no distant time, a revised list of the Algæ of Buffalo will be issued by the Society, with such extensions and corrections as, upon further research and examination, may appear necessary.

Grateful acknowledgments are made to Mr. Charles H. Peck, of Albany, N. Y., the State Botanist, for his kindness in supervising

and correcting our lists of Musci, Hepaticæ and Fungi:—originally prepared by Judge Clinton, by whom all the species were detected, except as otherwise stated.

For the accompanying map we are indebted to Mr. Julius Pohlman, Custodian of the Society, and to Mr. Henry Chandler, of this city, who has generously assisted in the engraving of it. It is hoped that it will prove of use, not only at the present time, but in the future, as a guide to the localities in which some of the rarer and more interesting members of our Flora were detected. The altitudes, given upon the map, of various places named in the Catalogue, have been obtained in all instances from sources which, it was thought, could be relied upon. In the main, it is to be presumed that they are nearly, if not quite, accurate.

It will be seen that the names of a few species, which appear in the Catalogue, are not accompanied by numbers. In such instances the plants are mentioned either because they are known to have formerly existed in this vicinity, although they have now disappeared, or because there is evidence, more or less satisfactory, for believing that they actually belong to our Flora, and will yet be detected here. In any event, however, as they are not numbered, their inclusion in the Catalogue will not lead to any misapprehension.

Whenever any plant is named and its locality is not given it may be understood that the plant is one of general diffusion through our territory. When localities are given, they are mentioned in the order of their distance from Buffalo:—the nearest first. In all such cases it may be understood that the compiler has regarded them as among our rarities. All phænogamous plants and their stations are named upon the authority of his personal observation, except as otherwise stated. From this, however, it is not to be inferred that he claims to have been the discoverer of the species in the localities named. The fact is often to the contrary.

A word may be of use in explanation of the nomenclature adopted in the Catalogue. As a rule, the names of species are those employed by Watson, in his "Bibliographical Index to North American Botany," so far as that valuable work has issued from the press. But where such names differ from those given by Gray, in the fifth edition of his Manual, the latter will be found in parentheses. In a very few instances the compiler has ventured to differ

from both of these pre-eminent authorities, and has used the names applied by other botanists.

The fact is entitled to notice that now, probably for the first time in America, a local catalogue is published in which the plants of all the classes in the vegetable kingdom are included. Usually, heretofore, such catalogues have not extended beyond the Vascular Crytogams:—very rarely, indeed, have they comprehended the Musci and Hepaticæ.

No one more than the writer can regret that any reason should have compelled Judge CLINTON to decline the task of preparing this Catalogue for publication:—no one can better appreciate how much has been lost because that labor has devolved upon another. In this city, where that devoted naturalist and accomplished scholar passed so many years of his useful and honorable life, nothing needs to be said, to any one, of his peculiar fitness for such a duty. The clearness, learning and rare felicity of style, with which he was accustomed to illumine and adorn his favorite theme, will here be long remembered.

Buffalo, March 1st, 1882.

# CATALOGUE.

## SERIES I. PHÆNOGAMÆ.

### CLASS I. EXOGENÆ.

### SUBCLASS I. ANGIOSPERMÆ.

### DIVISION I. POLYPETALÆ.

#### ORDER 1. RANUNCULACEÆ.

##### 1. CLEMATIS, L.

1. **C. Virginiana**, L.

##### 2. ANEMONE, L.

2. **A. cylindrica**, Gray.
   The Plains, Buffalo.
3. **A. Virginiana**, L.
4. **A. dichotoma**, L. (*A. Pennsylvanica*, L.)
5. **A. nemorosa**, L.
6. **var. quinquefolia**, DC.
7. **A. Hepatica**, L. (*Hepatica triloba*, *Chaix.*)
   Niagara Falls; Lewiston, Niagara Co.; Salamanca, Catt. Co.; Portage, Gen. Co. Common in the places named. Elsewhere not observed.
8. **A. acutiloba**, Lawson. (*Hepatica acutiloba*, DC.)
   The common "Hepatica" of Buffalo and its vicinity. Usually not found in company with *A. Hepatica*.

##### 3. THALICTRUM, L.

9. **T. anemonoides**, Michx.
   Rare. Near Queenston, Ont.; Portage, Wyom. Co., *Clinton;* Jamestown, Chat. Co.
10. **T. dioicum**, L.
11. **T. Cornuti**, L.

##### 4. ADONIS, L.

12. A. AUTUMNALIS, L. Spontaneous in gardens.

##### 5. RANUNCULUS, L.

13. **R. aquatilis**, L. var. **trichophyllus**, Chaix.
    Niagara River.

14. **R. multifidus,** Pursh.
Rare. W. Seneca, Erie Co.; Lewiston, Niag. Co.

15. **R. alismæfolius,** Geyer.
Rare. Salamanca, Catt. Co., *Clinton.*

16. **R. Flammula,** L., var. **reptans.** Meyer.
Very rare. West shore of Strawberry Is., Niagara River.

17. **R. abortivus,** L.

18. **R. sceleratus,** L.
Rather rare. Black Rock; Scajauquady's Creek.

19 **R. recurvatus,** Poir.

20. **R. Pennsylvanicus,** L.
Not very common. Shore of Niagara River at Black Rock; Scajauquady's Creek.

21. **R. fascicularis,** Muhl.
Rather rare. Near the Park and Forest Lawn Cemetery; the Plains, Buffalo.

22. **R. repens,** L.
With us usually smooth; a pubescent form at Forestville, Chat. Co.; perhaps var. **Marylandicus,** Torr. and G.

23. R. ACRIS, L.

24. R. BULBOSUS, L. Rare. Introduced.

6. NIGELLA, L.

25. N. DAMASCENA, L. Spontaneous in gardens. And escaped, *Clinton.*

7. CALTHA, L.

26. **C. palustris,** L.

8. TROLLIUS, L.

27. **T. laxus,** Salisb.
Very rare. Near Batavia, Gen. Co., *J. S. Lewis;* Silver Lake, Wyom. Co., *Clinton;* near Portage, in Gen. Co.

9. COPTIS, SALISB.

28. **C. trifolia,** Salisb.

10. HELLEBORUS, L.

29. H. VIRIDIS, L.
Very rare. Along a railroad track near Salamanca, Catt. Co. Probably the outcast of a garden.

11. AQUILEGIA, Tourn.

30. **A. Canadensis,** L.

31. A. VULGARIS, L.
Rare. Water Valley, Erie Co.—A white variety, which seems here, as elsewhere in the State, more disposed to persist than the blue or purple sort.

12. DELPHINIUM, Tourn.

32. D. CONSOLIDA, L.

Spontaneous in gardens and occasionally escaping.

13. HYDRASTIS, L.

33. **H. Canadensis,** L.

Very rare. Near Smoke's Creek, West Seneca, Erie Co.; Cayuga Is., Niagara River, *Clinton;* Medina, Orleans Co., *Dr. Hugo Schmidt;* Niagara Co., *Knieskern.*

14. ACTÆA, L.

34. **A. spicata,** L., var. **rubra,** Ait.

35. **A. alba,** Bigelow.

15. CIMICIFUGA, L.

36. **C. racemosa,** Nutt.

Rather rare. Squaw Is., Niagara River; W. Seneca, Erie Co.; Silver Lake, Wyom. Co.

ORDER 2. MAGNOLIACEÆ.

16. MAGNOLIA, L.

37. **M. acuminata,** L.

Rare. Forest Lawn Cemetery, Buffalo; Abbott's Corners, Erie Co.; Niagara Co., *Knieskern;* Hanover, Chat. Co.

17. LIRIODENDRON, L.

38. **L. tulipifera,** L.

Now rather rare. Formerly abundant.

ORDER 3. ANONACEÆ.

18. ASIMINA, Adans.

39. **A. triloba,** Dunal.

Very rare. Sturgeon Pt., Erie Co., *C. H. Williams;* Lockport and Middleport, Niag. Co., *James Hall;* mouth of Chatauqua Creek, *Knieskern;* Medina, Orleans Co., *Dr. Hugo Schmidt.*

ORDER 4. MENISPERMACEÆ.

19. MENISPERMUM, L.

40. **M. Canadenese,** L.

ORDER 5. BERBERIDACEÆ.

20. BERBERIS, L.

41. B. VULGARIS, L.

Rare. Goat Island, Niagara Falls.

21. CAULOPHYLLUM, Michx.

42. **C. thalictroides,** Michx.

22. JEFFERSONIA, Barton.

43. **J. diphylla,** Pers.

Very rare. Near Niagara Falls, *Clinton.*

23 PODOPHYLLUM, L.

44. **P. peltatum,** L.

## Order 6. Nymphæaceæ

24. BRASENIA, Schreber.

45. **B. peltata,** Pursh.

Rare. Black Creek, Ont., *Clinton;* Machias, Catt. Co; Cassadaga L., Chat. Co.

NELUMBIUM, Juss.

**N. luteum,** Willd.

It seems entirely certain, from the report of *J. F. Cowell,* that this rare and remarkable water-lily grows near Burnham's Is., in Grand River, a few miles from Dunnville, Ont.

25. NYMPHÆA, L.

**N. odorata,** Ait.

A pink flowering water-lily, probably this species, is reported by Miss *Ella M. Evry* to have been gathered at Cassadaga L., Chat. Co. "Inland Lakes, Chat. Co.," *E. S. Burgess.*

46. **N. tuberosa,** Paine.

26 NUPHAR, Smith.

47. **N. advena,** Ait.

## Order 7. Sarraceniaceæ.

27. SARRACENIA, Tourn.

48. **S. purpurea,** L.

Rather rare. Pt. Abino, Ont.; Villanova, Chat. Co.; Bergen, Gen. Co.; Machias, Catt. Co.; Java, Wyom. Co.; near Port Colborne, Ont., and elsewhere.

## Order 8. Papaveraceæ.

28. PAPAVER. L.

49. P. somniferum, L.

Spontaneous in gardens, and sometimes escaping.

50. P. Rhœas, L.

Spontaneous in gardens.

29. ARGEMONE, L.

51. A. MEXICANA, L.

Rare. Roadsides; near the Cattle-yards at East Buffalo; spontaneous in gardens.

30. CHELIDONIUM, L.

52. C. MAJUS, L.

Common at Pt. Abino, Ont., elsewhere scarce.

31. SANGUINARIA, Dill.

53. **S. canadensis,** L.

Rarely with four petals!

## ORDER 9. FUMARIACEÆ.

32. ADLUMIA, Raf.

54. **A. clrrhosa,** Raf.

Very rare. "Counterfeiter's Ledge," near Akron, Erie Co; One specimen was found growing on the Plains, Buffalo, and another at Ft. Erie, Ont.

33. DICLYTRA, Borkh.

55. **D. cucullaria,** DC. (*Dicentra cucullaria*, DC.)

Rather rare. W. Seneca, Erie Co.; Goat Is., Niagara Falls; Hanover, Chat. Co.

56. **D. Canadensis,** DC. (*Dicentra canadensis*, DC.)

Rather rare. Growing with *D. cucullaria*, but more uncommon.

34. CORYDALIS, Vent.

57. **C. glauca,** Pursh.

Very rare. Tonawanda, Niag. Co., *Clinton;* near Akron, Erie Co.

58. **C. flavula,** Raf.

Very rare Pt. Abino, Ont.

35. FUMARIA, L.

59. F. OFFICINALIS, L.

A very rare garden weed.

## ORDER 10. CRUCIFERÆ.

36. NASTURTIUM, L.

60. N. OFFICINALE, R. Br.

Rather rare. Scajauquady's Cr., Buffalo, *W. J. Palmer;* Niagara Falls, near Table Rock, *Clinton;* Caledonia, Liv. Co.

61. **N. palustre,** DC.

62. **N. lacustre,** Gray.

Rare. Niagara River, *Clinton;* Scajauquady's Creek, Buffalo;—the station now included in the Park, and obliterated.

63. N. AMORACIA, Fries.

37. DENTARIA, L.

64. **D. diphylla,** Nichx.

Rather rare. W. Seneca, Erie Co.; Hanover, Chat. Co.; Goat Is., Niagara Falls, and elsewhere.

65. **D. maxima,** Nutt.

Rare. Angola, Erie Co., *Clinton.*

66. **D. laciniata,** Muhl.

38. CARDAMINE, L.

67. **C. rhomboidea,** DC.

Rather rare. Scajauquady's Creek, Buffalo; Pine Hill, Cheektowaga, Erie Co.; W. Seneca, Erie Co. (the station destroyed.)

68. **C. rotundifolia,** Michx. ? (*C. rhomboidea,* DC. var. *purpurea,* Torr.)

Our plant does not agree with the description of *C. rotundifolia* in Gray's Manual, nor with specimens from Penn. Nor is the plant likely to be *C. purpurea,* Cham & Schlecht., which seems to be a species growing far northward. In giving it Michaux's name, we follow Watson, but with much doubt.

69. **C. pratensis,** L.

Rare. S. E. portion of Buffalo, near W. Seneca.

70. **C. hirsuta,** L.

71. var. **sylvatica.**

39. HESPERIS, L.

72. H. MATRONALIS, L.

Spontaneous in gardens, and naturalized in some places.

40. ARABIS, L.

73. **A. lyrata,** L.

Rather rare. Niagara Falls; Ft. Erie, Ont.; Pt. Abino, Ont.

74. **A. dentata,** Torr. and Gray.

Very rare. Eighteen-mile Cr., Evans, Erie Co., *Clinton.*

75. **A. hirsuta,** Scop.

Rare. Near whirlpool, on either side of Niagara R.; near Gowanda, Erie Co.

76. **A. lævigata,** Poir.

Rather rare. Forest Lawn Cemetery, Buffalo; Pt. Abino, Ont.

77. **A. Canadensis,** L.

78. **A. perfoliata,** Lam.

Rare. Near Forest Lawn Cemetery, Buffalo.

79. **A. Drummondii**, Gray.

Rare. Lewiston, Niag. Co.; Pt. Abino, Ont. The Lewiston plants, white-flowering: the Pt. Abino ones, pink.

41. BARBAREA, L.

80. **B. vulgaris**, R. Br.

42. ERYSIMUM, L.

81. **E. chieranthoides**, L.

Rather rare. West Seneca, Erie Co.; Mud Lake, Villanova, Chat. Co., and elsewhere.

43. SISYMBRIUM, L.

82. S. OFFICINALE, Scop.

83. S. THALIANA, Gay.

Pt. Abino, Ont. There abundant. Elsewhere not seen.

**S. canescens**, Nutt.

Very rare. It seems quite certain that a cruciferous plant, recently detected by members of the "Buffalo Field Club," at the Falls of Tonawanda River, in Corfu, Gen. Co., will prove to be of this species.

44. BRASSICA, L.

84. B. SINAPISTRUM, Bossier.

85. B. NIGRA, Gray.

86. B. CAMPESTRIS, L.

Rather rare. To be regarded as accidental.

87. B. RAPA, L.

Often spontaneous where "bird seed" has been scattered.

45. DRABA, L.

88. **D. arabisans**, Michx.

Very rare. "Counterfeiter's Ledge," near Akron, Erie Co.

D. VERNA, L.

Introduced at Buffalo and Goat Is., Niagara Falls. Hardly yet established.

46. ALYSSUM, Tourn.

89. A. CALYCINUM, L.

Rare. Near Brock's Monument, Queenston, Ont.; introduced near Forest Lawn Cemetery, Buffalo.

47. CAMELINA, Crantz.

90. C. SATIVA, Crantz.

Rare. Track of the L. S. & M. S. R. R., Buffalo. Not seen of late.

48. CAPSELLA, Vent.

91. C. BURSA-PASTORIS, Moensch.

49. THLASPI, Tourn.

92. T. ARVENSIS, L.

Rare. Track of the Erie Railway, at Dayton, Catt. Co.

50. LEPIDIUM, L.

93. **L. Virginicum,** L.

94. **L. intermedium,** Gray.

Rare. Track of the Niagara Falls Railroad, near the shore of Niagara R., Buffalo, *Clinton*. Not seen elsewhere.

51. CAKILE, Tourn.

95. **C. Americana,** Nutt.

Shore of Lake Erie. Not abundant.

## ORDER 11. CAPSARIDACEÆ.

52. POLANISIA, Raf.

96. **P. graveolens,** Raf.

A lake shore plant.

53. CLEOME, L.

97. C. INTEGRIFOLIA, Torr. & Gray.

Spontaneous in gardens, and escaping.

## ORDER 12. RESEDACEÆ.

54. RESEDA, L.

98. R. ALBA, L.

Spontaneous in gardens, and escaping.

## ORDER 13. VIOLACEÆ.

55. IONIDIUM, Vent.

99. **I. concolor,** Benth & Hook. (*Solea concolor*, Ging.)

Rare. Along the descent to Foster's Flat, near Queenston, Ont.

56. VIOLA, L.

100. **V. rotundifolia,** Michx.

Rather rare. In deep woods in south part of Erie Co.; Hanover, Chat. Co.

101. **V. blanda,** Willd.

102. V. ODORATA, L.

Spontaneous in gardens and occasionally escaping.

103. **V. Selkirkii,** Pursh.

Rare. Collins, Erie Co.; Hanover, Chat. Co.

104. **V. Cucullata,** Ait.
The variety, **longipes,** Peck. has been noticed in woods near the Sulphur Springs, W. Seneca, Erie Co.

105. **V. palmata,** L. (*V. Cucullata,* Ait, var. *palmata,* Gray.)
Rare. In woods, Plains, Buffalo.

106. **V. canina,** L., var. **sylvestris,** Regel.

107. **V. rostrata,** Muhl.

108. **V. striata,** Ait.
Rare. Smoke's Cr., W. Seneca, Erie Co.; near Irving, Chat. Co.

109. **V. Canadensis,** L.
A fragrant violet.

110. **V. pubescens,** Ait.

111. var. **eriocarpa,** Nutt.

112. **V. tenella,** Muhl. (*V. tricolor,* L. var. *arvensis, Ging.*)
Rare. Near the Park, east and west of Main street, Buffalo. We follow Hooker in regarding this plant as distinct from *V. tricolor.*

## Order 14. Cistaceæ.

### 57. HELIANTHEMUM, Tourn.

113. **H. Canadense,** Michx.
Rather rare. The Plains, Buffalo.

### 58. LECHEA, L.

114. **L. major,** Michx.
Rare. The Plains, Buffalo; Grand Is., Niagara River.

115. **L. minor,** Michx.
Rare. The Plains, Buffalo.

## Order 15. Droseraceæ.

### 59. DROSERA, L.

116. **D. rotundifolia,** L.
Rather rare. Pine Hill, Cheektowaga, Erie Co.; Pt. Abino, Ont.; Hanover, Chat. Co.; Machias, Catt. Co.

## Order 16. Hypericaceæ.

### 60. HYPERICUM, L.

117. **H. pyramidatum,** Ait.
Very rare. Grand Is., Erie Co.

118. **H. Kalmianum,** L.

Very rare. Goat Is., Niagara Falls; Pt. Abino, Ont. The plant at Pt. Abino produces fewer but larger flowers than the one at the Falls.

119. H. PERFORATUM, L.

120. **H. corymbosum,** Muhl.

121. **H. mutilum,** L.

61. ELODES, Adans.

122. **E. Virginica,** Nutt.

ORDER 17. CARYOPHYLLACEÆ.

62. DIANTHUS, L.

123. D. ARMERIA.

Rare. Niagara Falls, Ont., *Clinton.*

63. SAPONARIA, L.

124. S. OFFICINALIS, L.

64. VACCARIA, Medik.

125. V. VULGARIS, Host.

Rare. A few plants only have been seen, Buffalo.

65. SILENE, L.

126. **S. stellata,** Ait.

Rare. Portage, Wyom. Co., *Clinton ;* Bemus Pt., Chat. Co.

127. S. INFLATA, Smith.

Rare. Near Sulphur Spring, W. Seneca, Erie Co., *Clinton ;* Pt. Abino, Ont. Sometimes dicecious.

128. S. ARMERIA, L.

Spontaneous in gardens and sometimes escaping.

129. **S. antirrhina,** L.

130. S. GALLICA, L.

A rare garden weed, Buffalo, equivalent, according to Watson, to *S. quinquevulnera, L.*

131. S. NOTURNA, L.

Very rare. A single plant noticed in a roadside at Ft. Erie, Ont., in 1880.

132. S. NOCTIFLORA, L.

66. LYCHNIS, L.

133. L. GITHAGO, Lam.

134. L. CORONARIA, L.

Spontaneous in gardens, Buffalo.

67. ARENARIA, L.

135. A. SERPYLLIFOLIA, L.

136. **A. lateriflora**, L.

68. STELLARIA, L.

137. S. MEDIA, Smith.

138. **S. longifolia**, Muhl.

139. **S. borealis**, Bigelow.

Rare. Only seen at Machias, Catt. Co.

69. CERASTIUM, L.

140. C. VULGATUM, L.

141. C. VISCOSUM, L.

142. **C. nutans**, Raf.

Rather rare. West Seneca and elsewhere. A form with apetalous flowers found in the northeastern portion of Buffalo.

143. **C. arvense**, L.

Rare. Near the whirlpool, on both sides of Niagara River; near Foster's Flat, Ont.

70. SPERGULA, L.

144. S. ARVENSIS, L.

Rare. A weed in gardens, Buffalo; Hanover, Chat. Co.

71. MOLLUGO, L.

145. **M. verticillata**, L.

Rare. Ft. Erie, Ont.

## ORDER 18. PORTULACACEÆ.

72. PORTULACA, Tourn.

146. P. OLERACEA, L.

147. P. GRANDIFLORA, Hook.

Spontaneous in gardens and sometimes escaping, Buffalo.

73. CLAYTONIA, L.

148. **C. Virginica**, L.

149. **C. Caroliniana**, L.

## ORDER 19. MALVACEÆ.

74. ALTHEA, L.

150. A. ROSEA, L.

Occasionally escaped from gardens, Buffalo, and elsewhere.

75. MALVA, L.

151. M. ROTUNDIFOLIA, L.

152. M. SYLVESTRIS, L.
M. CRISPA, L.
Formerly not an uncommon weed in gardens, in Buffalo, but of late not often seen.

153. M. ALCEA, L.
Rare. Established along Main street, between Buffalo and Williamsville.

154. M. MOSCHATA, L.

76. SIDA, L.

155. S. SPINOSA, L.
Rare. Near the track of L. S. & M. S. R. R., at the Elk street crossing, Buffalo, *Clinton*.

77. ABUTILON, Tourn.

156. A. AVICENNÆ, Gærtn.

78. HIBISCUS, L.

157. **H. Moscheutos**, L.
Rare. Squaw Is., Niagara River, near Buffalo. Low grounds in W. Seneca, near the lake shore, *Clinton*.

158. H. TRIONUM, L.

## ORDER 20. TILIACEÆ.

79. TILIA, L.

159. **T. Americana**, L.
The basswood seems to have formed a very considerable portion of the original forest, growing on the site of the City of Buffalo, before its settlement. (Michaux's *North American Sylva*, Vol. iii., p. 132.)

## ORDER 21. LINACEÆ.

80. LINUM, L.

160. **L. Virginianum**, L.
Rather rare. The Plains, Buffalo; near Sulphur Spring, W. Seneca, Erie Co.

161. **L. striatum**, Walt.
Very rare. Plants, probably of this species, were found growing in the crevices of the rock, on the shore of the lake, at Pt. Abino, Ont., 1881.

162. L. USITATISSIMUM, L.
Occasionally escaping from cultivation.

## Order 22. Geraniaceæ.

### 81. GERANIUM, L.

163. **G. maculatum**, L.

164. **G. Carolinianum**, L.

Rather rare. The Plains, Buffalo.

165. G. DISSECTUM, L.

Rare. The Plains, Buffalo. Apparently native; not lately met with.

166. G. COLUMBINUM, L.

A rare garden weed, Buffalo.

167. G. PUSILLUM, L.

A rare garden weed, Buffalo.

168. **G. Robertianum**, L.

Rather rare. Pt. Abino, Ont.; Goat Is., and elsewhere.

### 82. FLŒRKIA, Willd.

169. **F. proserpinacoides**, Willd.

### 83. IMPATIENS, L.

170. **I. pallida**, Nutt.

171. **I. fulva**, Nutt.

### 84. OXALIS, L.

172. **O. Acetosella**, L.

Rather rare. Southern part of Erie Co.; Hanover, Chat. Co.; Java, Wyom. Co.

173. **O. stricta**, L.

174. O. CORNICULATA, L.

A rather common green-house weed.

## Order 23. Rutaceæ.

### 85. XANTHOXYLUM, Colden.

175. **X. Americanum**, Mill.

Rather rare. Ft. Erie, Ont.; Grand Is., Niagara R., *Clinton*.

### 86. PTELEA, L.

176. **P. trifoliata**, L.

Rare. Near Ft. Erie, Ont.; on the shore of L. Erie, in W. Seneca, Erie Co.; and in Evans, Erie Co.

## Order 24. Simarubaceæ.

### 87. AILANTHUS, Desf.

177. A. GLANDULOSUS, Desf.

Self-planted in Forest Lawn Cemetery and elsewhere in Buffalo.

## Order 25. Anacardiaceæ.

### 88. RHUS, L.

178. **R. typhina**, L.

179. **R. glabra**, L.

Rare. The Plains, Buffalo.

180. **R. venenata**, DC.

Rather rare. W. Seneca, Erie Co.; near Akron, Erie Co.; near Port Colborne, Ont.; Caledonia, Liv. Co.

181. **R. Toxicodendron**, L.

Rather rare. The Plains, Buffalo.

var. **radicans**, Torr.

182. **R. aromatica**, Ait.

Rare. Near the whirlpool, on both sides of Niagara R.; near Youngstown, Niagara Co.

## Order 26. Vitaceæ.

### 89. VITIS, L.

183. **V. Labrusca**, L.

Rather Rare. Niagara Falls.

184. **V. æstivalis**, Michx.

185. **V. cordifolia**, Lam.

### 90. AMPELOPSIS, L.

186. **A. quinquefolia**, Michx.

## Order 27. Rhamnaceæ.

### RHAMNUS, L.

187. **R. alnifolia**, L'Her.

Rare. Scajauquady's Cr., within the Park, Buffalo; the station now obliterated; Hamburgh, Erie Co.; Alden, Erie Co.; Bergen, Gen. Co.

### 92. CEANOTHUS, L.

188. **C. Americanus**, L.

Rather rare. The Plains, Buffalo.

## Order 28. Celastraceæ.

### 93. CELASTRUS, L.

189. **C. scandens**, L.

94. EUONYMUS. Tourn.

190. **E. atropurpureus,** Jacq.
Forest Lawn Cemetery, and the Plains, Buffalo; Goat Is., Niagara Falls.

191. **E. Americanus,** L.

192. var. **oboratus,** Torr. & Gray.
W. Seneca, Erie Co.; Hanover, Chat. Co.

## Order 29. Sapindaceæ.

95. STAPHYLEA. L.

193. **S. trifolia,** L.
Rare. The Plains, Buffalo; West Seneca, Erie Co.

96. ACER, L.

194. **A. Pennsylvanicum,** L.
Southern part of Erie Co., and throughout the Alleghany Dist.

195. **A. spicatum,** Lam.

196. **A. saccharinum,** Wang.

197. var. **nigrum,** Torr. & Gray.

198. **A. dasycarpum,** Ehrhart.

199. **A. rubrum,** L.

## Order 30. Polygalaceæ.

97. POLYGALA, Tourn.

200. **P. verticillata,** L.
Rather rare. The Plains, Buffalo.

201. **P. Senega,** L.
Rather rare. The Plains, Buffalo. The broader leaved form (var. **latifolia,** Torr. and Gray), near the whirlpool, Ont.

202. **P. paucifolia,** Willd.
Rare. Eighteen-mile Creek, Erie Co.; Portage, Wyom. Co.

## Order 31. Leguminosæ.

98. LUPINUS, L.

203. **L. perennis,** L.
Rather rare. Northeastern portion of Buffalo, but the station now exhausted. Near Akron, Erie Co.; along the track of the N. Y. C. & H. R. R. R., east of Batavia, Gen. Co.; near Queenston, Ont.; Silver Lake, Wyom. Co., *Clinton;* Salamanca, Catt. Co., *Clinton.*

99. TRIFOLIUM, L.

204. T. ARVENSE, L.
Rare. Near Lewiston, Niag. Co.

205. T. PRATENSE, L.

206. T. REPENS, L.

207. T. HYBRIDUM, L.
Rare. Delaware street, near the Park, Buffalo; near Warsaw, Wyom. Co., *Clinton*.

208. T. PROCUMBENS, L.
Rare. Clifton, Ont.

100. MELILOTUS, Tourn.

209. M. OFFICINALIS, Willd.
Rather rare. Near Ft. Porter, Buffalo; Grand Is., Niagara R.

210. M. ALBA, Lam.

101. MEDICAGO, L.

211. M. SATIVA, L.
Occasionally spontaneous.

212. M, LUPULINA, L.

102. ROBINIA, L.

213. **R. Pseudacacia,** L.
Naturalized. Tonawanda Is., Niagara R., and elsewhere.

214. **R. viscosa,** Vent.
Naturalized. Old cemetery between North and Best streets, Buffalo, and elsewhere.

103. ASTRAGALUS, L.

215. **A. Canadensis,** L.
Not common. Squaw Is., Niagara R.; Strawberry Is., Niagara R., and elsewhere.

216. **A. Cooperi,** Gray.
Rather rare. Strawberry Is., Niagara R., Erie Co.; Niagara Falls.

104. GLYCYRRHIZA, Tourn.

217. **G. lepidota,** Nutt.
Very rare. Established on a sand-dune above Ft. Erie, Ont. Probably introduced from the west by the Indians.

105. DESMODIUM, DC.

218. **D. nudiflorum,** DC.

219. **D. acuminatum,** DC.

220. **D. rotundifolium**, DC.
The Plains, Buffalo.

221. **D. canescens**, DC.
The Plains, Buffalo.

222. **D. cuspidatum**, Hook.

223. **D. Dillenii**, Darl.
Whirlpool woods, Niagara R., American side.

224. **D. paniculatum**, DC.

225. **D. Canadense**, DC.

226. **D. rigidum**, DC.

227. **D. Marilandicum**, Boott.
The Plains, Buffalo.

106. LESPEDEZA, Michx.

228. **L. violacea**, Pers.

229. var. **sessiliflora.**
The Plains, Buffalo.

230. **L. hirta**, Ell.
The Plains, Buffalo.

231. **L. capitata**, Michx.
The Plains, Buffalo.

107. ONOBRYCHIS, Tourn.

232. O. SATIVA, Lam.
Rare. Pt. Abino, Ont.

108. VICIA, Tourn.

233. V. SATIVA, L.
Rather rare. Black Rock Dam, Buffalo.

234. V. CRACCA, L.
Rather rare. A garden weed, Buffalo; Hanover. Chat. Co.

235. **V. Caroliniana**, Walt.

236. **V. Americana**, Muhl.

109. LATHYRUS, L.

237. **L. maritimus**, Bigelow.

238. **L. ochroleucus**, Hook.

239. **L. paluster**, L.

240. var. **myrtifolius**, Gray.

241. L. PRATENSIS. L.
A rare garden weed, Buffalo.

110. APIOS, Bœrhaave.

242. **A. tuberosa**, Mœnch.

111. AMPHICARPEA, Ell.

243. **A. monoica,** Nutt.

112. BAPTISIA, Vent.

244. **B. tinctoria,** R. Br.

Rare. Salamanca, *Clinton.*

CERCIS, L.

**C. Canadensis,** L. Torrey, in his Flora of the State, mentions having received specimens from Dr. Kennicott, of Buffalo, collected, as he thought, near Lewiston; but he says they might not have been native. Not seen by us.

113. CASSIA, L.

245. **C. Marilandica,** L.

Very rare. Evans, Erie Co.

246. **C. Chamæcrista,** L.

Very rare. A single specimen collected from the track of the L. S. & M. S. R. R., near Angola, Erie Co., by *Chas. Linden.* But spontaneous in gardens, Buffalo.

114. GLEDITSCHIA, L.

247. **G. triacanthos,** L.

Occasionally spontaneous.

ORDER 22. ROSACEÆ.

115. PRUNUS, Tourn.

248. **P. Americana,** Marshall.

249. **P. Pennsylvanica,** L.

250. P. CERASUS, L.

Often spontaneous along fences and roadsides.

251. **P. Virginiana,** L.

252. **P. serotina,** Ehrhart.

116. AMYGDALUS, Tourn.

253. A. PERSICA, L.

Often spontaneous and occasionally fruiting without cultivation or protection.

117. SPIRÆA, L.

254. **S. salicifolia,** L.

118. NEILLIA, Don.

255. **N. opulifolia,** Bent. & Hook.

Rather rare. Strawberry Is., Grand Is., Niagara R.; Pt. Abino, Ont.

GILLENIA, Mœnch.

G. trifoliata, Mœnch.

Rare. Jamestown, Chat. Co., *Clinton*. Likely to be found within our limits.

119. POTERIUM, L.

256. P. Canadense, Benth. & Hook.

Rare. Clear Creek, Catt. Co.

120. AGRIMONIA, Tourn.

257. A. Eupatoria, L.

121. GEUM, L.

258. G. album, Gmelin.

259. G. Virginianum, L.

260. G. macrophyllum, Willd.

Rare. Hamburgh. Erie Co.

261. G. strictum, Ait.

262. G. rivale, L.

122. WALDSTEINIA., Willd.

263. W. fragarioides, Traut.

123. POTENTILLA, L.

264. P. Norvegica, L.

265. P. supina, L. (*P. paradoxa, Nutt.*)

Rare. "On the sand-bar separating Four-mile Run Pond from the Lake," Ont.; *Clinton*.

266. P. Canadensis, L.

267. P. argentea, L.

Abundant on the Plains, Buffalo, elsewhere not frequent.

268. P. RECTA, L. An occasional weed, Buffalo.

269. P. arguta, Pursh.

Rare. Two plants found on a high, gravelly knoll, near Cherry Cr., Catt. Co.

270. P. Anserina, L.

271. P. fruticosa, L.

Rather rare. Pt. Abino, Ont.; near Pt. Colborne, Ont.; Bergen, Gen. Co.; Caledonia, Liv. Co.

272. P. palustris, Scop.

Rather rare. On the shore of Niagara R., Buffalo, between Black Rock and Tonawanda, *J. F. Cowell;* Cayuga Is., Niagara R., *Clinton;* Pt. Abino, Ont.; near Akron, Erie Co.; Bergen, Gen. Co.; Port Colborne, Ont.

124. FRAGARIA, Tourn.

273. F. **Virginiana**, Duchesne.
274. F. **vesca**, L.

125. RUBUS, Tourn.

275. R. **Dalibarda**, L.
276. R. **odoratus**, L.
277. R. **triflorus**, Richardson.
278. R. **strigosus**, Michx.
279. R. **occidentalis**, L.
280. R. **villosus**, Ait.
281. R. **Canadensis**, L.
Rather rare. The Plains, Buffalo.

282. R. **hispidus**, L.

126. ROSA, Tour.

283. R. **setigera**, Michx.
Rare. Woods east of Delaware street, beyond the Park, Buffalo.

284. R. **Carolina**, D.
285. R. **parviflora**, Ehrhart. (*Rosa lucida*, Ehrh.)
286. R. **blanda**, Ait.
287. R. RUBIGINOSA, L.
288. R. MICRANTHA, Smith.
Rare. Oak Orchard Creek, near Medina, Orl. Co., *Clinton*.

289. R. SPINOSISSIMA, L.
Rare. Along a roadside on the Plains, Buffalo. Doubtless an escape.

127. CRATÆGUS, L.

290. C. OXYCANTHA, L.
Occasionally spontaneous.

291. C. **coccinea**, L.
292. C. **tomentosa**, L.
293. C. **Crus-galli**, L.

128. PYRUS, L.

294. P. MALUS, L.
Rather rare. Large trees, perhaps planted, are growing in woods on Grand Is., Niagara R., near Sheenwater; elsewhere sometimes spontaneous.

295. P. COMMUNIS, L.
Grand Is. Less common than *P. Malus*.

296. **P. coronaria,** L.

Not uncommon. Cheektowaga, the name of one of the towns of Erie Co., signifies in the Seneca language, according to *O. H. Marshall,* Esq., of Buffalo, "the place of crab-apples." Plentiful on the Plains, Buffalo, and at Portage, Wyom. and Liv. Cos.

297. **P. arbutifolia,** var. **melanocarpa,** Gray.

298. **P. Americana,** DC.

Rare. Machias, Catt. Co., "Rock City," Little Valley, Catt. Co.; Panama, Chat. Co., *Clinton.*

129. AMELANCHIER, Medik.

299. **A. Canadensis,** Torr. & Gray.

## Order 33. Saxifragaceæ.

130. RIBES, L.

300. **R. Cynosbati,** L.

301. **R. oxyacanthoides,** L. (*R. hirtellum,* Michx.)

302. **R. prostratum,** L'Her.

Rare. Hanover, Chat. Co.; Dayton, Catt. Co.

303. **R. floridum,** L'Her.

304. **R. rubrum,** L., var. **subglandulosum,** Maxim.

Rare. In Buffalo Park, where "The Lake" now is; the station obliterated. Hamburgh, Erie Co.; Jamestown, Chat. Co., *Clinton;* Westfield, Chat. Co., *Clinton.*

131. PARNASSIA, Tourn.

305. **P. Caroliniana,** Michx.

Rather rare. Strawberry Is., Niagara R.; Wind-mill Pt., Ont.; Goat Is., Niagara Falls; Bergen, Gen. Co.

132. SAXIFRAGA, L.

306. **S. aizoides,** L.

Very rare. Falls of the Genesee River, Portage, Wyom. Co.

307. **S. Virginiensis** Michx.

308. **S. Pennsylvanica,** L.

133. MITELLA, L.

309. **M. diphylla,** Tourn.

310. **M. nuda,** L.

Rare. Near Black Creek, Ont., *Clinton;* Bergen, Gen. Co.; Machias, Catt. Co.; Caledonia, Liv. Co., *Clinton.*

134. TIARELLA, L.

311. **T. cordifolia**, L.

135. CHRYSOSPLENIUM, Tourn.

312. **C. Americanum**, Schwein.

## Order 34. Crassulaceæ.

136. PENTHORUM, Gronov.

313. **P. sedoides**, L.

137. SEDUM, Tourn.

314. S. ACRE, L.

Rather rare. Niagara Falls; Williamsville, Erie Co., and elsewhere.

315. S. TELEPHIUM, L.

Rather rare. Machias, Catt. Co., and elsewhere.

## Order 35. Hamamelaceæ.

138. HAMAMELIS, L.

316. **H. Virginica**, L.

## Order 36. Haloragеæ.

139. MYRIOPHYLLUM, Vaill.

317. **M. spicatum**, L.

318. **M. verticiliatum**, L.

Rare. Squaw Is., Niagara R.

319. **M. heterophyllum**, Michx.

Rare. Strawberry Is., Niagara R., *Clinton*.

140. PROSERPINACA, L.

320. **P. palustris**, L.

Rare. Shore of Lake Erie, Buffalo; Chatauqua Lake, at "The Narrows."

## Order 37. Onagraceæ.

141. CIRCÆA, Tourn.

321. **C. Lutetiana**, L.

322. **C. alpina**, L.

142. GAURA, L.

323. G. biennis., L.
Rare. Sulphur Springs, Cheektowaga, Erie Co.; near Ft. Erie, Ont.

143. EPILOBIUM, L.

324. E. spicatum, Lam. (*E. angustifolium*, L., var. *b.*)
325. E. palustre., var. lineare, Gray.
326. E. molle, Torr.
327. E. coloratum, Muhl.

144. ŒNOTHERA, L.

328. O. biennis, L.
329. var. muricata, Lindl.
330. O. pumila, L.

145. LUDWIGIA, L.

331. L. palustris, Ell.

## Order 38. Lythraceæ.

146. LYTHRUM, L.

332. L. alatum, Pursh.
Rare. Near the track of the B. & S. W. R. R., W. Seneca, Erie Co., *Clinton;* near Bay View, Erie Co., *Clinton.*

147. NESÆA, Commerson, Juss.

333. N. verticillata, HBK.
Rather rare. Squaw Is., Niagara R.; Strawberry Is., Niagara R., *Clinton;* Hanover, Chat. Co.

## Order 39. Cucurbitaceæ.

148. SICYOS, L.

334. S. angulatus, L.
Rare. West Seneca, Erie Co.

149. ECHINOCYSTIS, Torr. and Gray.

335. E. lobata, Torr. and Gray.
Rare. Sulphur Springs, W. Seneca, Erie Co.

## Order 40. Umbelliferæ.

150. HYDROCOTYLE, Tourn.

336. H. Americana, L.

151. SANICULA, Tourn.

337. **S. Canadensis,** L.
338. **S. Marilandica,** L.

152. DAUCUS, Tourn.

339. D. CAROTA, L.

153. TORILIS, Adans.

340. T. ANTHRISCUS, Gærtn.
Rare. Not seen except near Limestone Hill, W. Seneca, Erie Co. There abundant and spreading.

154. HERACLEUM, L.

341. **H. lanatum,** Michx.

155. PASTINACA, Tourn.

342. P. SATIVA, L.

156. ARCHANGELICA, Hoff.

343. **A. hirsuta,** Torr. and Gray.
Rare. Portage, Liv. Co., *Clinton;* Salamanca, Catt. Co., *Clinton.*

344. **A. atropurpurea,** Hoff.

157. ÆTHUSA, L.

345. A. CYNAPIUM, L., Aurora, Erie Co., *Clinton.*

158. SELINUM, (*Conioselinum Canadensis,* Fischer.)

346. **S. Canadense,** Michx.
Rather rare. Springbook, Erie Co.; Bergen, Gen. Co.; Portage, Wyom. Co.; Jamestown, Chat. Co., *Clinton;* Caledonia, Liv. Co., *Clinton.*

159. THASPIUM, Nutt.

347. **T. barbinode,** Nutt.
348. **T. aureum,** Nutt.

160. PIMPINELLA, L.

349. **P. integerrima,** Benth. and Hook. (*Zizia integerrima,* DC.)

161. CICUTA, L.

350. **C. maculata,** L.
351. **C. bulbifera,** L.

162. SIUM, L.

352. **S. cicutæfolium,** Gmelin. (*S. lineare,* Michx.)

163. BERULA, Koch.

353. **B. angustifolia,** Koch. ? (*Sium angustifolium*, L.)
Rare. Near Smoke's Creek, W. Seneca, Erie Co.

164. CRYPTOTÆNIA, DC.

354. **C. Canadensis,** DC.

165. CHÆROPHYLLUM, L.

355. C. SATIVUM, Lom.
Garden scape., Buffalo, *Clinton*.

166. CARUM.

356. C. CARUI, L.

167. OSMORRHIZA, Raf.

357. **O. longistylis,** DC.

358. **O. brevistylis,** DC.

168. CONIUM, L.

359. C. MACULATUM, L.

169. CORIANDRUM.

360. C. SATIVUM.
Garden scape, Buffalo.

170. ERIGENIA, Nutt.

361. **E. bulbosa,** Nutt.
Rare. Buffalo R., Buffalo; Smoke's Cr., W. Seneca, Erie Co.

ORDER 41. ARALIACEÆ.

171. ARALIA, Tourn.

**A. spinosa,** L.
Stated by *E. S. Burgess* to be spontaneous at Silver Creek and Panama, Chat. Co.

362. **A. racemosa,** L.

363. **A. hispida,** Ventenat.
Rather rare. W. Seneca, Erie Co.; Hanover, Chat. Co.; Machias, Catt. Co.

364. **A. nudicaulis,** L.

365. **A. quinquefolia,** Decsne and Planch.

366. **A. trifolia,** Decsne and Planch.

## Order 42. Cornaceæ.

### 172. CORNUS, Tourn.

367. **C. Canadensis,** L.

Rare. Pine Hill, Cheektowaga; West Seneca, Erie Co.; Bergen, Gen. Co ; Machias, Catt. Co.

368. **C. florlda,** L.

369. **C. circinata,** L'Her.

Rather rare. Niagara Falls.

370. **C. sericea,** L.

371. **C. stolonifera,** Michx.

372. **C. paniculata,** L'Her.

373. **C. alternifolia,** L.

Rather rare. Hamburgh, Erie Co.

### 173. NYSSA, L.

374. **N. multiflora,** Wang.

Rather rare. Woods east of Delaware street, near the Park, Buffalo; southeastern portion of Buffalo.

## Division II. MONOPETALÆ.

### Order 43. Caprifoliaceæ.

#### 174. LINNÆA, Gronov.

375. **L. borealis,** Gronov.

Rare. Hamburgh, Erie Co.; Java, Wyom. Co., *Clinton;* Bergen, Gen. Co.; Caledonia, Liv. Co.

#### 175. SYMPHORICARPUS, Dill.

376. **S. racemosus.,** Michx.

Rare, except in gardens. Near Forestville, Chat. Co.; perhaps the outcast of a garden.

Var. **pauciflorus,** Robbins.

Niagara Falls. Planted in a garden, the variety has grown larger and not distinguishable from the type. It may therefore be regarded rather as a condition than a variety.

377. **S. vulgaris,** Michx.

Rare. Near Ft. Erie, Ont. Probably escaped from cultivation.

#### 176. LONICERA, L.

378. **L. sempervirens,** Ait.

Rare. W. Seneca, Erie Co. A garden scape.

**L. grata,** Ait. ?

Credited to Silver Creek, Chat. Co., by *E. S. Burgess.*

379. **L. parviflora,** Lam.

380. var. **Douglassii,** Gray.

Rare. Niagara Falls.

381. **L. hirsuta,** Eaton.

Rare. Silver Lake, Wyom. Co., *Clinton;* Markham's (B. & S. W. R. R.), Catt. Co., *Clinton;* near Westfield, Chat. Co., *Clinton;* Jamestown, Chat. Co.

382. L. Tatarica.

Rare. Naturalized in Forest Lawn Cemetery, Buffalo. Also, near Ft. Erie, Ont., and in the woods, near the whirlpool, on the American side of Niagara R.

383. **L. ciliata,** Muhl.

**L. cærulea,** L. ?

Attributed to Panama, Chat. Co., by *E. S. Burgess.*

384. **L. oblongifolia,** Muhl.

Rare. Near Akron, Erie Co.; Bergen, Gen. Co.; Caledonia, Liv. Co., *Clinton.*

177. DIERVILLA. Tourn.

385. **D. trifida,** Mœnch.

178. TRIOSTEUM, L.

386. **T. perfoliatum,** L.

179. SAMBUCUS, Tourn.

387. **S. Canadensis,** L.
388. **S. pubens,** Michx.

180. VIBURNUM, L.

389. **V. Lentago,** L.
390. **V. nudum,** L.
Rather rare. W. Seneca, Erie Co.; Hanover, Chat. Co.; Port Colborne, Ont.
391. **V. dentatum,** L.
Rather rare. Grand Is., Erie Co.; W. Seneca, Erie Co.
392. **V. pubescens,** Pursh.
393. **V. acerifolium,** L.
394. **V. Opulus,** L.
Rather rare. W. Seneca, Erie Co.; Bergen, Gen. Co.
395. **V. lantanoides,** Michx.

## Order 44. Rubiaceæ.

181. GALIUM, L.

396. **G. Aparine,** L.
397. G. Mollugo, L.
A rare weed in gardens. Buffalo.
398. **G. asprellum,** Michx.
399. **G. trifidum,** L., var. **tinctorium,** Torr. and Gray.
400. **G. triflorum,** Michx.
401. **G. pilosum,** Gray.
402. **G. circæzans,** Michx.
403. **G. lanceolatum,** Torr.
404. **G. boreale,** L.

182. CEPHALANTHUS, L.

405. **C. occidentalis,** L.

183. MITCHELLA, L.

406. **M. repens,** L.

184. HOUSTONIA. L.

407. **H. purpurea,** L., var. **ciliolata,** Gray.
Rare, except along Niagara R., at and below the Falls.

408. **H. cærulea**, L.
Rare. Lewiston, Niagara Co.; Salamanca, Catt. Co.

## Order 45. Valerianaceæ.

### 185. VALERIANA. Tourn.

409. **V. sylvatica**, Richards.
Rare. Bergen Swamp, Gen. Co.

410. V. officinalis.
Becoming naturalized in places. Buffalo; Hamburgh, Erie Co.

### 186. FEDIA, Gærtn.

411. F. olitoria, Vahl.
Rare. Naturalized in northeastern portion of Buffalo, and near Pt. Colborne, Ont.

412. **F. Fagopyrum**, Torr. and Gray.
Rare. Near Sulphur Springs. Cheektowaga, Erie Co.

## Order 46. Dipsaceæ.

### 187. DIPSACUS. Tourn.

413. D. sylvestris, Mill.

## Order 47. Compositæ.

### 188. VERNONIA, Schreb.

414. **V. Noveboracensis**, Willd.
Rare. Portage, Liv. Co., *Clinton*.

### 189. LIATRIS, Schreb.

415. **L. cylindracea**, Michx.
Rare. Whirlpool woods, Niagara R., American side.

### 190. EUPATORIUM, Tourn.

416. **E. purpureum**, L.
417. **E. perfoliatum**, L.
418. **E. ageratoides**, L.

### 191. PETASITES, Tourn.

419. **P. palmata**, Watson. (*Nardosmia palmata*, Hook.)
Rare. Machias, Catt. Co.; Silver Lake, Wyom. Co., *Clinton*.

192. TUSSILAGO, Tourn.

420. T. **Farfara**, L.
Rather rare. Near Sulphur Spring, Cheektowaga, Erie Co.; Bergen, Gen. Co.; Caledonia, Liv. Co.

193. ASTER, L.

A. **corymbosus**, Ait.
Attributed to the vicinity of Fredonia by *E. S. Burgess*.

421. A. **patens**, Ait.
422. A. **lævis**, L.
423. var. **cyaneus**, Gray.
424. A. **azureus**, Lindl.
Rare. Whirlpool woods, Niagara R., American side, *Clinton*.

425. A. **undulatus**, L.
Rare. Portage, Wyom. Co., *Clinton*.

426. A. **cordifolius**, L.
427. A. **sagittifolius**, Willd.
428. A. **ericoides**, L.
429. var. **villosus**.
430. A. **multiflorus**, Ait.
431. A. **Tradescanti**, L.
432. A. **miser**, L.
433. A. **simplex**, Willd.
434. A. **tenuifolius**, L.
435. A. **longifolius**, Lam.
436. A. **puniceus**, L.
437. var. **vimineus**, Gray.
438. A. **prenanthoides**, Muhl.
Rare. North Collins, Erie Co., *Clinton;* Portage, Wyom. Co., *Clinton*.

439. A. **Novæ-Angliæ**, L.
440. var. **roseus**, Gray.
Rare. Ft. Erie, Ont., *Clinton*.

441. A. **acuminatus**, Michx.
Rare. "Counterfeiter's Ledge," Akron, Erie Co., *Clinton*.

442. A. **ptarmicoides**, Torr. and Gray.
Rare. Whirlpool woods, Niagara R., American side.

194. ERIGERON, L.

443. E. **Canadense**, L.
444. E. **bellidifolium**, Muhl.
445. E. **Philadelphicum**, L.
446. E. **annuum**, Pers.

447. E. strigosum, Muhl.

195. DIPLOPAPPUS, Cass.

448. D. umbellatus, Torr. and Gray.

196. BELLIS, Tourn.

449. B. PERENNIS, L.
Established in lawns in a few places in Buffalo.

197. SOLIDAGO, L.

450. S. squarrosa, Muhl.
Rare. Near Forest Lawn Cemetery, Buffalo.

451. S. bicolor, L.
452. var. concolor, Gray.
453. S. latifolia, L.
454. S. cæsia, L.
455. S. stricta, Ait.
Rare. Caledonia, Liv. Co., *Clinton*.

456. S. rigida, L.
457. S. Ohioensis, Riddell.
Rare. Bergen Swamp, Gen. Co., *Clinton*.

458. S. Houghtonii, Torr. and Gray.
Rare. Bergen Swamp, Gen. Co., *Clinton*.

459. S. sempervirens, L.
Introduced. Spontaneous in gardens, Buffalo, and disposed to spread.

460. S. neglecta, Torr. and Gray.
Rare. Bergen Swamp, Gen. Co., *Clinton;* Caledonia, Liv. Co., *Clinton*.

461. S. patula, Muhl.
462. S. arguta, Ait.
463. var. juncea, Gray.
464. S Muhlenbergii, Torr. and Gray.
465. S. altissima, L.
466. S. ulmifolia, Muhl.
467. S. nemoralis, Ait.
468. S. Canadensis, L.
469. S. serotina, Ait.
470. S. gigantea, Ait.
471. S. lanceolata, L.

198. INULA, L.

472. I. HELENIUM, L.

199. POLYMNIA, L.

473. **P. Canadensis,** L.

Rather rare. Smoke's Cr., W. Seneca, Erie Co.; near Lewiston, Niagara Co.

200. SILPHIUM, L.

474. **S. laciniatum,** L.

Spontaneous in gardens, Buffalo, and disposed to spread. Hardly yet established.

475. **S. trifoliatum,** L.

Attributed to Niagara Falls by Torrey, on the authority of Dr. Eddy, but not seen by us.

201. AMBROSIA, Tourn.

476. **A. trifida,** L.

The var. **integrifolia,** near the bridge of the L. S. & M. S. R. R., over Buffalo R., *Clinton.*

477. **A. artemisiæfolia,** L.

202. XANTHIUM, Tourn.

478. **H. strumarium,** L.

479. H. SPINOSUM, L.

Rare. A "railroad weed," not lately seen, Buffalo.

203. HELIOPSIS, Pers.

480. **H. lævis,** Pers.

481. var. **scabra.** Gray.

204. ECHINACEA, Mœnch.

482. **E. purpurea,** Mœnch. (?)

Very rare. A single plant was seen by Judge Clinton a mile or two east from E. Buffalo station. Possibly *E. angustifolia,* DC.

205. RUDBECKIA, L.

483. **R. laciniata,** L.

484. **R. hirta,** L.

LEPACHYS, Raf.

L. **pinnata,** Torr. and Gray.

Rare. Collected in Chat. Co., on the shore of Lake Erie, by Dr. *H. P. Sartwell.* Not since reported. Probably not within our territory.

206. HELIANTHUS, L.

485. H. ANNUUS, L.

486. **H. giganteus,** L. (?)

Rare. Salamanca, Catt. Co., *Clinton;* Fredonia, Chat. Co., *Petit. ex fide, Burgess.*

487. **H. strumosus,** L.

488. **H. divaricatus,** L.

489. **H. decapetalus,** L.

490. **H. doronicoides,** Lam.

The cultivated variety, formerly known as *H. tuberosus*, has escaped from cultivation in some places in and near Buffalo.

207. COREOPSIS, L.

491. **C. trichosperma,** Michx.

Not seen except in the S. E. portion of Buffalo; there abundant.

492. **C. tinctoria,** Nutt.

Spontaneous in gardens, and escaping, Buffalo.

**C. Drummondii.**

Spontaneous in gardens, Buffalo.

208. BIDENS, L.

493. **B. frondosa, L.**

494. **B. connata,** Muhl.

495. **B. cernua,** L.

496. **B. chrysanthemoides,** Michx. (?)

Possibly our B. *chrysanthemoides* is only a form of *B. cernua*, L.

497. **B. Beckii,** Torr.

Rare. "Smuggler's Run," Squaw Is., Niagara R., Erie Co., *Clinton.*

498. **B. bipinnata,** L.

Rare. A "railroad weed," Buffalo; not lately seen, *Clinton.*

209. DYSODIA, Cav.

499. **D. chrysanthemoides,** Lag.

Rare. A "railroad weed;" Ft. Erie, Ont., not lately seen.

210. HELENIUM, L.

500. **H. autumnale,** L.

211. GALINSOGA, Ruiz and Pav.

501. G. PARVIFLORA, Cav.

Rare. Court yards and streets, Buffalo. Introduced.

212. MARUTA, Cass.

502. M. COTULA, DC.

213. ANTHEMIS, L.

503. A. ARVENSIS, L.
Rare. A weed in nursery grounds, Pine Hill, Cheektowaga, Erie Co.

214. ACHILLEA, L.

504. A. MILLEFOLIUM, L.
The rose-colored variety in the vicinity of Forest Lawn Cemetery, Buffalo, and at Caledonia, Liv. Co.

215. LEUCANTHEMUM, Tourn.

505. L. VULGARE, Lam.

216. CHRYSANTHEMUM, L.

506. C. PARTHENIUM, Pers. (*Leucanthemum Parthenium*, Godron.)
A weed in some gardens. Buffalo; Pt. Colborne, Ont.

217. BALSAMITA, Willd.

507. B. VULGARIS, Willd.
Rare. Escaped from gardens, Buffalo, and elsewhere.

218. MATRICARIA, Tourn.

508. M. CHAMOMILLA, L.
Rare. A garden weed; Cheektowaga, Erie Co.

219. TANACETUM, L.

509. T. VULGARE, L.

510. var. **crispum**, Gray.

220. ARTEMISIA, L.

511. **A. Canadensis**, Michx.
Rare. Irving, Chat. Co.; Pt. Abino, Ont.

512. A. VULGARIS, L.
Near the lower Suspension Bridge, Niagara R., American side.

513. **A. biennis**, Willd.
Recently introduced from the west, but already very common. With us, apparently, always annual.

514. A. ABROTANUM, L.
Escaped from gardens, Buffalo, and elsewhere.

515. A. ABSINTHIUM, L.
Milford, Chat. Co., *Burgess*. An escape.

221. GNAPHALIUM, L.

516. **G. decurrens**, Ives.
Less common than the next. The Plains, Buffalo.

517. **G. polycephalum**, Michx.

518. **G. uliginosum.**

222. ANTENNARIA, Gærtn.

519. **A. margaritacea,** R. Br.

520. **A. plantiginifolia,** Hook.

223. ERECHTHITES, Raf.

521. **E. hieracifolia,** Raf.

224. CACALIA, L.

522. **C. suaveolens,** L.
Avon, Liv. Co., *B. D. Greene.*

523. **C. atriplicifolia,** L.
Rare. Portage, Liv. Co., *Clinton;* Bemus Point, Chat. Lake.

225. SENECIO, L.

524. S. VULGARIS, L.
A rather rare garden weed, Buffalo.

525. **S. aureus,** L.

526. var. **Balsamitæ,** Gray.
Niagara R., below the Falls.

226. CENTAUREA, L.

527. C. CYANUS, L.
Spontaneous in gardens, and escaped, Buffalo and elsewhere.

227. CIRSIUM, Tourn.

528. C. LANCEOLATUM, Scop.

529. **C. discolor,** Spreng.

530. **C. altissimum,** Spreng.

531. **C. muticum,** Michx.
Rare. Bergen Swamp, Gen. Co., *Clinton;* Caledonia, Liv. Co., *Clinton.*

532. **C. pumilum,** Spreng.
Rather rare. The Plains, Buffalo.

533. C. ARVENSE, Scop.

228. ONOPORDON, Vaill.

534. O. ACANTHIUM, L.
Occasionally escaped. Abbott Road, W. Seneca, Erie Co.; Bergen, Gen. Co.; Jamestown, Chat. Co., *Clinton.*

229. SILYBUM, Vaill.

535. S. MARIANUM, Gærtn.
Occasionally escaped, Buffalo.

230. ARCTIUM, L.

536. A. LAPPA, L., var. **major.** (*Lappa officinalis, Allioni.*)
537. var. **tomentosa,** Gray.
Rare. Forest Lawn Cemetery, Buffalo. *Clinton.*

231 LAMPSANA, Tourn.

538. L. COMMUNIS, L.
Rare. In gardens and court-yards, Buffalo.

232. CICHORIUM, Tourn.

539. C. INTYBUS, L.
Not common. Roadsides, near Scajaquady's Cr., Buffalo; Pine Hill, Cheektowaga, Erie Co.; near Angola, Erie Co.

KRIGIA, Schreb.

**K. amplexicaulis,** Nutt. (*Cynthia Virginica,* Don.)
Rare. Panama, Chat. Co., *Burgess.* Perhaps entering our territory at the southwest.

233. LEONTODON, L., Juss.

540. L. AUTUMNALE, L.
Rare. Buffalo. Probably introduced with "English Lawn Grass."

234. HIERACIUM, Tourn.

541. **H. Canadense,** Michx.
542. **H. scabrum,** Michx.
543. **H. Gronovii,** L.
544. **H. venosum,** L.
545. **H. paniculatum,** L.

235. PRENANTHES, L.

546. **P. alba.** L. (*Nabalus albus,* Hook.)
547. var. **Serpentaria.**
548. **P. altissima, L.** (*Nabalus altissimus,* Hook.)
549. **P. crepidina,** Michx. ? (*Nabalus crepidineus,* DC.)
Very rare. Wheelbarrow Pt., Buffalo. Only two plants seen, and those not lately. Some doubt exists as to the species, but it surely better corresponds with *P. crepidina* than with any other described in Gray's Manual.

236. TARAXACUM, Haller.

550. T. DENS-LEONIS, Desf.

237. LACTUCA, Tourn.

551. **L. Canadensis,** L.

552. L. SATIVA, L.
Often spontaneous.

553. **L. leucophæa,** Benth. (*Mulgedium leucophæum,* DC.)

238. SONCHUS., L.

554. S. OLERACEUS, L.

555. S. ASPER, Vill.

556. S. ARVENSIS, L.
Rare. Angola, Erie Co., *Clinton.*

## Order 48. Lobeliaceæ.

239. LOBELIA, L.

557. **L. cardinalis,** L.

558. **L. syphilitica,** L.

559. **L. inflata,** L.

**L. spicata,** Lam.
Attributed to Clymer, Chat. Co., by *E. S. Burgess.*

560. **L. Kalmii,** L.
Rather rare. Lake shore, near the foot of York street, Buffalo; Wind-mill Pt. and Pt. Abino, Ont.; Goat Is., Niagara Falls; Bergen Swamp, Gen. Co.

## Order 49. Campanulaceæ.

240. CAMPANULA, Tourn.

561. **C. rotundifolia,** L.
Not common. Niagara R., at and below the Falls; Eighteen-mile Creek, Hamburgh, Erie Co.

562. **C. aparinoides,** Pursh.

563. **C. Americana,** L.
Not common. Smoke's Cr., W. Seneca, Erie Co.

564. C. GLOMERATA, L. ?
Rare. Along the turnpike, Hamburgh, Erie Co. Some doubt, however, remains as to the identity of the species.

565. C. RAPUNCULOIDES, L.

241. SPECULARIA, Heister.

566. **S. perfoliata,** A. DC.
Very abundant at Pt. Abino and Port Colborne, Ont.; elsewhere rather rare.

## Order 50. Ericaceæ.

### 242. GAYLUSSACIA, H. B. K.

567. **G. frondosa,** Torr. and Gray.

568. **G. resinosa,** Torr. and Gray.

### 243. VACCINIUM, L.

569. **V. Oxycoccus,** L.

Port Colborne, Ont.; Hanover, Chat. Co.; Bergen Swamp, Gen. Co., *Clinton*, and elsewhere.

570. **V. macrocarpon,** Ait.

Hanover, Chat. Co.

571. **V. stamineum,** L.

Rare. The Plains, Buffalo.

572. **V. Pennsylvanicum,** Lam.

573. **V. Canadense,** Kalm.

Rare. Machias, Catt. Co.; "Rock City," near Salamanca, Catt. Co.

574. **V. vacillans,** Solander.

575. **V. corymbosum,** L.

### 244. CHIOGENES, Salisb.

576. **C. hispidula,** Torr. and Gray.

Rare. Hanover, Chat Co.; Bergen, Gen. Co.

### 245. ARCTOSTAPHYLOS, Adans.

577. **A. Uva-ursi,** Spreng.

Rare. Pt. Abino, Ont.; Niagara R., at and below the Falls.

### 246. EPIGÆA, L.

578. **E. repens,** L.

Rare. Gowanda, Erie Co.; "Rock City," near Salamanca, Catt. Co.; Portage, Liv. and Gen. Cos.; Jamestown, Chat. Co.

### 247. GAULTHERIA, Kalm.

579. **G. procumbens,** L.

### 248. CASSANDRA, Don.

580. **G. calyculata,** Don.

Sardinia, Erie Co.; Hanover, Chat. Co.; Machias, Catt. Co.

### 249. ANDROMEDA, L.

581. **A. polifolia,** L.

Rare. Black Creek, Ont., *Clinton;* near Akron, Erie Co.; Java Lake, Wyom. Co., *Clinton;* Machias, Catt. Co.; "Randall's Fly," near Milford, Chat. Co., *Burgess.*

250. KALMIA. L.

**K. latifolia,** L.

Rare. Olean, Catt. Co., *Clinton.* Not unlikely to occur in the southeastern portion of our territory.

582. **K. glauca,** Ait.

Rare. Machias, Catt. Co.

251. AZALEA. L.

583. **A. nudiflora,** L.

Rather rare. Near Batavia and Bergen, Gen. Co.; Machias, Catt. Co.; "Rock City," near Salamanca, Catt. Co.; Silver Lake, Wyom. Co.; Jamestown, Chat. Co.

252. RHODODENDRON, L.

584. **R. maximum,** L.

Rare. Hamburgh, Erie Co.; Machias, Catt. Co.; Clear Creek, Chat. Co.

253. LEDUM, L.

585. **L. latifolium,** Ait.

Rare. Black Creek, Ont., *Clinton;* Bergen, Gen. Co.; Machias, Catt. Co.

254. PYROLA, Tourn.

586. **P. rotundifolia,** L.

Rather rare. Woods east of Delaware street, and north of the Park, Buffalo; and elsewhere.

var. **uliginosa,** Gray.

Rare. Near Akron, Erie Co.

587. **P. elliptica,** Nutt.

588. **P. chlorantha,** Swartz.

589. **P. secunda,** L.

255. MONESES, Salisb.

590. **M. uniflora,** Gray.

Rare. Pine Hill, Cheektowaga, Erie Co., *Clinton;* but rather abundant at Pt. Abino, Ont.

256. CHIMAPHILA, Pursh.

591. **C. umbellata,** Nutt.

592. **C. maculata,** Pursh.

Rare. Hanover, Chat. Co., and elsewhere.

257. PTEROSPORA, Nutt.

593. **P. Andromedea,** Nutt.

Rare. Whirlpool, American side, *Clinton;* Portage, Gen. Co.

258. MONOTROPA, L.

594. **M. uniflora,** L.

595. **M. Hypopitys,** L.

Rare. The Plains, Buffalo, *Clinton;* Pt. Abino, Ont.; Goat Is., Niagara Falls, *Clinton;* Eighteen-mile Cr., Evans, Erie Co.; Bemus Pt., Chat. Co.

## Order 51 Aquifoliaceæ.

259. ILEX, L.

596. **I. monticola,** Gray.

Rare. "Rock City," near Salamanca, Catt. Co.; Panama Rocks, Chat. Co., *Burgess.*

597. **I. verticillata,** Gray.

260. NEMOPANTHES, Raf.

598. **N. Canadensis,** DC.

## Order 52. Plantaginiaceæ.

261. PLANTAGO, L.

599. P. MAJOR, L.

600. **P. Kamschatica,** Cham.

Undoubtedly indigenous. Perhaps not very rare. Certainly abundant along Rush Cr., Hamburgh, Erie Co., and readily distinguished from *P. major,* by the pink color at the base of the leaves.

601. P. LANCEOLATA, L.

## Order 53. Primulaceæ.

262. PRIMULA, L.

602. **P. Mistassinica,** Michx.

Very rare. Only found at Portage, Wyom. Co.

263. TRIENTALIS, L.

603. **T. Americana,** Pursh.

264. LYSIMACHIA, Tourn.

604. **L. thyrsiflora,** L.

605. **L. stricta,** Ait.

606. **L. quadrifolia,** L.

Rather rare. Machias, Catt. Co.; Salamanca, Catt. Co.; Silver Lake, Wyom. Co.; Portage, Wyom. Co.

607. **L. ciliata,** L.

608. **L. lanceolata,** L.

609. **L. longifolia,** Pursh.

610. L. NUMMULARIA, L.

Rare. A garden escape.

265. ANAGALLIS, Tourn.

611. A. ARVENSIS, L.

A rare weed in gardens, Buffalo.

266. SAMOLUS, L.

612. **S. Valerandi,** L., var. **Americanus,** Gray.

## ORDER 54. LENTIBULACEÆ.

267. UTRICULARIA, L.

613. **U. vulgaris,** L.

614. **U. intermedia,** Hayne.

Rare. Squaw Is., Niagara R.

615. **U. cornuta,** Michx.

Rather rare. Niagara Falls, Canadian side, *Clinton;* Cassadaga Lake. Chat. Co.

268. PINGUICULA, L.

616. **P. vulgaris.**

Very rare. Portage, Wyom. Co.

## ORDER 55. BIGNONIACEÆ.

269. MARTYNIA, L.

617. **M. proboscidea,** Glox.

Rare. Occasionally escaped from gardens, where it is often spontaneous. Buffalo; Lewiston, Niagara Co.

## ORDER 56. OROBANCHACEÆ.

270. EPIPHEGUS, Nutt.

618. **E. Virginiana,** Bart.

271. CONOPHOLIS, Wallroth.

619. **C. Americana,** Wallroth.

Rare. The Plains, Buffalo; Tonawanda, Erie Co., *Clinton;* Hamburgh, Erie Co.; Pt. Abino, Ont.

272. APHYLLON, Mitchell.

620. **A. uniflorum,** Torr. and Gray.

## Order 57. Scrophulariaceæ.

### 273. VERBASCUM, L.

621. V. Thapsus, L.

622. V. Blattaria, L.

### 274. LINARIA, Tourn.

623. L. vulgaris, Mill.

### 275. ANTIRRHINUM, L.

624. A. Orontium, L.

A rare garden weed, Buffalo.

### 276. SCROPHULARIA, Tourn.

625. **S. nodosa,** L.

### 277. COLLINSIA, Nutt.

626. **C. verna,** Nutt.

Rare. Smoke's Cr., W. Seneca, Erie Co.; "Forks of the Broken Straw," Chat. Co., *Burgess.*

### 278. CHELONE, Tourn.

627. **C. glabra,** L.

### 279. PENTSTEMON, Mitchell.

628. **P. pubescens,** Solander.

Not very common. The Plains, Buffalo; Grand Is., Erie Co.; Port Colborne, Ont.; Niagara Falls.

### 280. MIMULUS, L.

629. **M. ringens,** L.

630. **M. alatus,** Ait.

Much less common than *M. ringens.* Scajauquady's Cr., Buffalo, and elsewhere.

### 281. GRATIOLA, L.

631. **G. Virginiana,** L.

### 282. ILYSANTHES, Raf.

632. **I. gratioloides,** Benth.

Not very common. Lake shore, Buffalo, and elsewhere.

### 283. VERONICA, L.

633. **V. Virginica,** L.

Rare. Portage, Liv. Co., *Clinton;* Bemus Pt., Chat. Co.; Avon, Liv. Co., *Sartwell.*

634. **V. Anagallis,** L.

Rare. Alabama, Gen. Co., *Clinton;* Bergen, Gen. Co.

635. **V. Americana,** Schweinitz.

636. **V. scutellata,** L.
637. **V. officinalis,** L.
638. **V. serpyllifolia,** L.
639. **V. peregrina,** L.
640. V. ARVENSIS. L.
641. V. CHAMÆDRYS, L.

Very rare. Found growing in a roadside, Buffalo, and perpetuated.

284. GERARDIA, L.

642. **G. purpurea,** L.

Rare. Strawberry Is., Niagara R.; Wind-mill Pt., Ont.; Niagara Falls.

643. **G. tenuifolia,** Vahl.

Not very common. The Plains, Buffalo; W. Seneca, Erie Co.

644. **G. flava,** L.
645. **G. quercifolia,** Pursh.
646. **G. integrifolia,** Gray.

Rare. Salamanca, Catt. Co., *Clinton.*

285. CASTILLEIA, Mutis.

647. **C. coccinea,** Spreng.

Rather rare. Northeastern part of Buffalo; near the Whirlpool, Niagara R., Canadian side, and elsewhere.

286. PEDICULARIS, Tourn.

648. **P. Canadensis,** L.
649. **P. lanceolata,** Michx.

Rare. Low grounds in Forest Lawn Cemetery, Buffalo; Islands of Niagara R.

287. MELAMPYRUM, Tourn.

650. **M. Americanum,** Michx.

## ORDER 58. ACANTHACEÆ.

288. DIANTHERA, Gronov.

651. **D. Americana,** L.

Not very common. Buffalo R.; Niagara R., especially on the American side, a short distance from Goat Is.

## ORDER 59. VERBENACEÆ.

289. VERBENA, L.

652. **V. hastata,** L.

653. **V. urticifolia**, L.
**V. Aubletia**, L.
Spontaneous in gardens. Buffalo.

290. PHRYMA, L.

654. **P. Leptostachya**, L.

## Order 60. Menthaceæ.

291. TEUCRIUM, L.

655. **T. Canadense**, L.
A white flowering variety at Pt. Abino. Ont.

292. MENTHA. L.

656. M. VIRIDIS, L.
657. M. PIPERITA, L.
Cheektowaga, Erie Co. and elsewhere. Not common.
658. **M. Canadensis**, L.
659. var. **glabrata**. Benth.

293. LYCOPUS, L.

660. **L. Virginicus**, L.
661. **L. Europæus**, L.

294. HYSSOPUS, L.

662. H. OFFICINALIS, L.
Occasionally escaped near Buffalo.

295. PYCNANTHEMUM. Michx.

663. **P. incanum**, Michx.
Rare. Portage, Wyom. Co., *Clinton*.

664. **P. lanceolatum**, Pursh.
A variety with proliferous heads, on Squaw Is., Niagara R.

665. **P. linifolium**, Pursh.

296. THYMUS, L.

666. T. SERPYLLUM. L.
Thoroughly established in a cemetery at Williamsville, Erie Co.

297. CALAMINTHA, Mœnch.

667. **C. glabella**, Benth., var. **Nuttallii**, Gray.
Ft. Erie, and thence along the lake shore to Pt. Abino, Ont.; Niagara Falls.

668. **C. Clinopodium**, Benth.

298. MELISSA, L.

669. M. OFFICINALIS, L.
Escaped in many places.

299. HEDEOMA, Pers.

670. **H. pulegioides,** Pers.

300. COLLINSONIA, L.

671. **C. Canadensis,** L.

301. SALVIA, L.

672. S. OFFICINALIS, L.
Established in the edge of a wood near DeVeaux College, Niag. Co., opposite the Whirlpool, far from cultivation, and spreading.

302. MONARDA, L.

673. **M. didyma,** L.
Rare. Forest Lawn Cemetery, Buffalo; Machias, Catt. Co., and elsewhere.

674. **M. fistulosa,** L.

303. BLEPHILIA, Raf.

675. **B. hirsuta,** Benth.
Rare. Clear Cr., Chat. Co.

304. LOPHANTHUS, Benth.

676. **L. nepetoides,** Benth.
Rare. Pt. Abino, Ont.; Aurora, Erie Co., *Clinton.*

677. **L. scrophulariæfolius,** Benth.

305. NEPETA, L.

678. N. CATARIA, L.

679. N. GLECHOMA, L.

306. DRACOCEPHALUM, L.

680. **D. parviflorum,** Nutt.
Rare. Sparingly found at Ft. Erie, Ont.

307. PHYSOSTEGIA, Benth.

681. **P. Virginiana,** Benth.
Rather rare, Islands in Niagara R.; Pt. Abino, Ont.

308. BRUNELLA, Tourn.

682. **B. vulgaris,** L.

309. SCUTELLARIA, L.

683. **S. parvula,** Michx.
Rather rare. Lake shore, near foot of York street, Buffalo; Pt. Abino, Ont.; Goat Is., Niagara Falls.

684. **S. galericulata,** L.

685. **S. lateriflora,** L.

310. MARRUBIUM, L.

686. M. VULGARE, L.
Rather rare. The Plains, Buffalo, and elsewhere.

311. GALEOPSIS, L.

687. G. TETRAHIT, L.

312. STACHYS, L.

688. **S. palustris,** L.

689. var. **aspera,** Gray.

313. LEONURUS, L.

690. L. CARDIACA, L.

314. LAMIUM, L.

691. L. AMPLEXICAULE, L.

692. L. PURPUREUM, L.
A rare garden weed, Buffalo.

315. BALLOTA, L.

693. **B. nigra,** L.
A rare garden weed, Buffalo, not lately seen.

## ORDER 61. BORRAGINACEÆ.

316. ECHIUM, Tourn.

694. E. VULGARE, L.
Rare. Niagara Falls.

317. SYMPHYTUM, Tourn.

695. S. OFFICINALE, L.
Rare. Roadsides in the suburbs of Buffalo; Attica, Wyom. Co.; Portage, Liv. Co., *Clinton.*

318. ONOSMODIUM, Michx.

696. **O. Carolinianum,** DC.

319. LITHOSPERMUM, Tourn.

697. L. ARVENSE, L.

698. L. officinale, L.
Rare, except at Niagara Falls.

699. L. latifolium, Michx.

700. L. hirtum, Lehm.
Rare. Sand-drifts of the lake shore, Ft. Erie and Pt. Abino, Ont; near Batavia, Gen. Co.

320. MERTENSIA, Roth.

701. M. Virginica, DC.

321. MYOSOTIS, L.

702. M. palustris, Withering, var. laxa, Gray.

703. M. arvensis, Hoffman.
Rare. A weed in a few gardens, Buffalo; Pine Hill, Cheektowaga, Erie Co.

704. M. verna, Nutt.
Rare. The Plains, Buffalo.

322. ECHINOSPERMUM, Swartz.

705. E. Lappula, Lehm.

323. CYNOGLOSSUM, Tourn.

706. C. officinale, L.

707. C. Virginicum, L.
Rare. Whirlpool woods, Niagara R., American side; Akron, Erie Co.; "Rock City," Salamanca, Catt. Co.

708. C. Morisoni, DC.

324. HELIOPHYTUM, Cham., DC.

709. H. Indicum, DC.
A rare garden weed, probably precarious. Buffalo.

## Order 62. Hydrophyllaceæ.

325. HYDROPHYLLUM, L.

710. H. Virginicum, L.

711. H. Canadense, L.
Less common than *H. Virginicum*. Buffalo R.; Hanover, Chat. Co.

## Order 63. Polemoniaceæ.

326. POLEMONIUM, L.

712. P. reptans, L.
Southeastern part of Buffalo; but growing scarce.

327. PHLOX, L.

713. **P. paniculata,** L.

Spontaneous in gardens; escaped, *Clinton.*

714. **P. maculata,** L.

One plant seen growing "wild," in woods near Delevan avenue, Buffalo, now included in Forest Lawn Cemetery.

715. **P. divaricata,** L.

716. var. **Laphamii,** Wood.

717. **P. subulata,** L.

Found many years ago on low sand-dunes near the foot of Genesee street, Buffalo; banks of Allen's Cr., Le Roy, Gen. Co., *Clinton;* banks of Wolf Cr., near Portage, Wyom. Co., *Clinton.*

ORDER 64. CONVOLVULACEÆ.

328. IPOMÆA, L.

718. **I. purpurea,** Lam.

Spontaneous in gardens. Rarely escaped.

719. **I. pandurata,** Meyer.

Rare. In a field on the Plains, near the Erie County Almshouse, Buffalo.

329. CONVOLVULUS, L.

720. **C. arvensis,** L.

Rather rare. Waste places and roadsides, Buffalo; Lewiston, Niagara Co.

721. **C. Sepium,** L. (*Calystegia Sepium,* R. Br.)

722. **C. spithamæus,** L. (*Calystegia spithamæa,* Pursh.)

Very rare. One specimen only found. Whirlpool woods, Niagara R., Ont., *Clinton.*

330. CUSCUTA, Tourn.

723. C. EPILINUM, Weihe.

Rare. In flax fields, Niagara Co.

724. **C. inflexa,** Engelm.

Rare. Youngstown, Niagara Co.

725. **C. Gronovii,** Willd.

ORDER 65. SOLANACEÆ.

331. SOLANUM, Tourn.

726. S. DULCAMARA, L.

727. S. NIGRUM. L.

728. S. CAROLINENSE, L.

Rare. Along the Buffalo & Lake Huron Railway track at Ft. Erie, Ont.; along the track of the Lake Shore & Michigan Southern Railroad, in Buffalo.

332. PHYSALIS, L.

729. **P. pubescens,** L.

Rather rare. Near the lake shore, W. Seneca, Erie Co.

730. **P. viscosa,** L.

731. **P. Philadelphica,** L. ?

333. NICANDRA, Adans.

732. N. PHYSALOIDES, Gærtn.

Occasional. Buffalo; Ft. Erie, Ont.

334. ATROPA, L.

733. A. BELLADONNA, L.

A rare garden weed, Buffalo.

335. LYCIUM, L.

734. L. VULGARE, Dunal.

A garden scape. Niagara Falls.

336. HYOSCYAMUS, Tourn.

735. H. NIGRUM, L.

Rather rare. Waste places near the Erie County Penitentiary, Buffalo; Ft. Erie, Ont.

337. DATURA, L.

736. D. STRAMONIUM, L.

Rather rare. Youngstown, Niagara Co.

737. D. TATULA, L.

Waste places, Buffalo, and elsewhere. Here more common than *D. Stramonium*.

338. NICOTIANA, L.

738. N. RUSTICA, L.

Rare. Ft. Erie, Ont., and elsewhere.

## ORDER 66. GENTIANIACEÆ.

339. FRASERA, Walt.

739. **F. Caroliniensis,** Walt.

Rare. The Plains, Buffalo; Tonawanda, Erie Co. A perennial! But often dying as soon as the seed is matured.

340. GENTIANA, L.

740. **G. quinqueflora,** Lam.
Rather rare. The Plains, Buffalo.

741. **G. crinita,** Frœl.
Rare. Islands of Niagara R.; Hamburgh, Erie Co.; Caledonia, Liv. Co.

742. **G. detonsa,** Fries.
Rare. Niagara Falls.

743. **G. Andrewsii,** Griseb.

744. var. **albiflora,** Squaw Is. and Strawberry Is., Niagara R.; Salamanca, Catt. Co., *Clinton*.

745. **G. puberula,** Michx.
Very rare. Four or five plants only noticed in the edge of a wood on the Plains, Buffalo.

341. MENYANTHES, Tourn.

746. **M. trifoliata,** L.
Rather rare. Pt. Abino, Ont.; Bergen Swamp, Gen. Co.; Hanover, Chat. Co.; Machias, Catt. Co.

## Order 67. Apocynaceæ.

342. APOCYNUM, Tourn.

747. **A. androsæmifolium,** L.

748. **A. cannabinum,** L.

343. VINCA, L.

749. V. MINOR, L.
Escaped into roadsides in a few places, Forest Lawn Cemetery, Buffalo, and elsewhere.

## Order 68. Asclepiadaceæ.

344. ASCLEPIAS, L.

750. **A. Cornuti,** Decaisne.

751. **A. phytolaccoides,** Pursh.

752. **A. quadrifolia,** Jacq.
Rare. Whirlpool woods, Niagara R., American side.

753. **A. incarnata,** L.
A variety with white flowers, noticed in southeastern portion of Buffalo.

754. **A. tuberosa,** L.
Abundant upon the Plains, Buffalo; near the Whirlpool, on either side of Niagara R., and in a few other places.

755. **A. verticillata,** L.
Rare. Whirlpool woods, Niagara R., American side.

345. VINCETOXICUM, Mœnch.

756. V. NIGRUM. Mœnch.
Rare. A garden weed. Buffalo. Not lately seen.

## Order 69. Oleaceæ.

346. LIGUSTRUM, Tourn.

757. L. VULGARE, L.
Rarely escaped, Buffalo.

347. FRAXINUS, Tourn.

758. **F. Americana,** L.
759. **F. pubescens,** Lam.
760. **F. viridis,** Michx. f.
761. **F. sambucifolia,** Lam.

## Division III. APETALÆ.

### Order 70. Aristolochiaceæ.

#### 348. ASARUM, Tourn.

762. **A. Canadense,** L.

### Order 71. Phytolaccaceæ.

#### 349. PHYTOLACCA, Tourn.

763. **P. decandra,** L.

### Order 72. Chenopodiaceæ.

#### 350. CHENOPODIUM, L.

764. C. album, L.

765. C. glaucum, L.
Rather rare. Roadsides in Buffalo.

766. C. urbicum, L.
Rather rare. With *C. glaucum*.

767. C. hybridum, L.

768. C. Botrys, L.
Rather rare. Shore of Niagara R., Buffalo; Ft. Erie, Ont.

769. C. ambrosioides, L., var. anthelminticum, Gray.
Rare. Ft. Erie, Ont.

#### 351. BLITUM, Tourn.

770. **B. capitatum,** L.
Rather rare. Gowanda, Erie Co.; Hanover, Chat. Co.; Machias, Catt. Co.

#### 352. ATRIPLEX, Tourn.

771. **A. patula,** L., var. **hastata,** Gray.

772. var. **littoralis,** Gray.

#### 353. CORISPERMUM, Ant. Juss.

773. **C. hyssopifolium,** L.
Rare. Shore of Niagara R., Buffalo; Lake shore, above Ft. Erie, Ont.

## Order 73. Amarantaceæ.

### 354. AMARANTUS, Tourn.

774. A. hypochondriacus, L.
775. A. retroflexus, L.
776. var. hybridus, Gray.
777. A. albus, L.
778. A. spinosus, L.

Rare. Along railroad tracks in the southeastern portion of Buffalo. Not lately seen.

## Order 74. Polygonaceæ.

### 355. POLYGONUM, L.

779. P. orientale, L.

Spontaneous in gardens and escaped, Buffalo.

780. **P. Pennsylvanicum,** L.
781. **P. incarnatum,** Ell.

Rather rare. Southeastern portion of Buffalo, *Clinton;* Sulphur Spring, Cheektowaga, Erie Co., *Clinton.*

782. L. Persicaria, L.
783. **L. Hydropiper,** L.
784. **P. acre,** HBK.
785. **P. hydropiperoides,** Michx.
786. **P. amphibium,** L.. var. **aquaticum,** Willd.

Rare. Strawberry Is., Niagara R., *Clinton.*

787. var. **terrestre,** Willd.

Rare. Southeastern portion of Buffalo, *Clinton;* Pt. Abino, Ont., *Clinton;* Strawberry Is., Niagara R., *Clinton.*

788. **P. Hartwrightii,** Gray.

Rare. Niagara R , near the upper or new ferry to Grand Is., *Clinton;* Pt. Abino, Ont., *Clinton*..

789. **P. Virginianum,** L.
790. **P. aviculare,** L.
791. **P. erectum,** L.
792. **P. arifolium,** L.
793. **P. sagittatum,** L.
794. P. Convolvulus, L.
795. **P. dumetorum,** L.

### 356. FAGOPYRUM, Tourn.

796. F. esculentum, Mœnch.

357. RUMEX, L.

797. **R. orbiculatus,** Gray.
Rare. Buffalo; *Clinton.*

798. **R. Brittanica,** L.
Rather rare. Southeastern portion of Buffalo, *Clinton ;* Smoke's Cr., W. Seneca, Erie Co., *Clinton ;* Bay View, Hamburgh, Erie Co., *Clinton.*

799. **R. verticillatus,** L.

800. R. CRISPUS, L.

801. R. OBTUSIFOLIUS, L.

802. R. ACETOSELLA, L.

## ORDER 75. LAURACEÆ.

358. SASSAFRAS, Nees.

803. **S. officinale,** Nees.

359. LINDERNA, Thunberg.

804. **L. Benzoin,** Meisner.

## ORDER 76. THYMELACEÆ.

360. DIRCA, L.

805. **D. palustris,** L.

## ORDER 77. ELÆAGNACEÆ.

361. SHEPHERDIA, Nutt.

806. **S. Canadensis,** Nutt.

## ORDER 78. SANTALACEÆ.

362. COMANDRA, Nutt.

807. **C. umbellata,** Nutt.

808. **C. livida,** Richardson. ?
It seems altogether likely that this is the species noticed in Bergen Swamp, by *J. A. Paine.*

## ORDER 79. SAURURACEÆ.

363. SAURURUS, L.

809. **S. cernuus,** L.

## Order 80. Ceratophyllaceæ.

### 364. CERATOPHYLLUM, L.

810. **C. demersum**, L., var. **echinatum**, Gray.

## Order 81. Callitrichaceæ.

### 365. CALLITRICHE, L.

811. **C verna**, L.

## Order 82. Euphorbiaceæ.

### 366. EUPHORBIA, L.

812. **E. polygonifolia**, L.

813. **E. maculata**, L.

814. **E. hypericifolia**, L.

Rather rare. Track. of the L. S. & M. S. R. R., Buffalo; Silver Creek, Chat. Co.

815. **E. corollata**, L.

Rare. Portage, Wyom. Co., *Clinton*.

816. E. platyphylla, L.

817. E. Helioscopia, L.

818. E. Esula, L.

Rare. Shore of Niagara R., between Black Rock and Tonawanda, *John F. Cowell;* Attica, Wyom. Co., *Clinton*.

819. E. Cyparissias, L.

Rather rare. Escaped from cultivation in a few places.

820. E. Peplus, L.

Becoming a rather common garden weed, Buffalo.

821. E. Lathyris, L.

Rare. Silver Creek, Chat. Co., *Clinton*.

### 367. ACALYPHA, L.

822. **A. Virginica**, L.

## Order 83. Urticaceæ.

### 368. ULMUS, L.

823. **U. fulva**, Michx.

824. **U. Americana**, L.

825. **U. racemosa**, Thomas.

Very rare. A few specimens noticed in the northern portion of Buffalo. A large tree in Forest Lawn Cemetery, Buffalo.

369. MORUS.

826. **M. rubra,** L.

A few trees in the woods near the Whirlpool, Niagara R., American side.

827. M. ALBA, L.

Spontaneous in some places, Buffalo.

370. URTICA, Tourn.

828. **U. gracilis,** Ait.

829. U. DIOICA, L.

Rare. Near Ft. Erie, Ont.

371. LAPORTEA, Gaudichaud.

830. **L. Canadensis,** Gaudichaud.

372. PILEA, Lindl.

831. **P. pumila.** Gray.

373. BŒHMERIA, Jacq.

832. **B. cylindrica,** Willd.

374. CANNABIS, Tourn.

833. C. SATIVA, L.

375. HUMULUS, L.

834. **H. Lupulus,** L.

Rare. Borders of Buffalo R., near Sulphur Springs, Cheektowaga, Erie Co., and elsewhere.

ORDER 84. PLATANACEÆ.

376. PLATANUS, L.

835. **P. occidentalis,** L.

ORDER 85. JUGLANDACEÆ.

377. JUGLANS, L.

836. **J. cinerea,** L.

837. **J. nigra,** L.

378. CARYA, Nutt.

838. **C. alba,** Nutt.

839. **C. tomentosa,** Nutt.

Rare. Tonawanda, *Clinton.*

840. **C. porcina,** Nutt.

841. **C. amara,** Nutt.

## Order 86. Cupuliferæ.

### 379. QUERCUS, L.

842. **Q. alba**, L.

843. **Q. obtusiloba**, Michx.

844. **Q. macrocarpa**, Michx.

845. **Q. bicolor**, Willd.

Rare. Grand Is., Niagara R.

846. **Q. Muhlenbergii**, Engelm. (*Q. Prinus*, L., var. *acuminata*, Michx.)

Rare. Near Forest Lawn Cemetery, Buffalo.

847. **Q. prinoides**, Willd. (*Q. Prinus*, L., var. *humilis*, Marsh.)

Rare. The Plains, Buffalo.

848. **Q. coccinea**, Wang.

849. **Q. tinctoria**, Bart.

850. **Q. rubra**, L.

851. **Q. palustris**, Du Roi.

### 380. CASTANEA, Tourn.

852. **C. vesca**, L., var. **Americana**, Michx.

### 381. FAGUS, Tourn.

853. **F. ferruginea**, Ait.

### 382. CORYLUS, Tourn.

854. **C. rostrata**, Ait.

Rare. Forest Lawn Cemetery, Buffalo.

### 383. OSTRYA, Micheli.

855. **O. Virginica**, Willd.

### 384. CARPINUS, L.

856. **C. Americana**, Michx.

## Order 87. Myricaceæ.

### 385. MYRICA, L.

857. **M. Gale**, L.

Rare. Hanover, Chat. Co.; Machias, Catt. Co.

858. **M. cerifera**, L.

Rare. One or two specimens in the southeastern portion of Buffalo. Sheldon, Gen. Co., *Robert Hadfield;* Bergen Swamp, Gen. Co.; Caledonia, Liv. Co.

### 386. COMPTONIA, Solander.

859. **C. asplenifolia**, Ait.

Rare. Near Portage, Liv. Co., *J. F. Cowell;* Jamestown, Chat. Co.; Olean, Catt. Co., *Clinton.*

## Order 88. Betulaceæ.

### 387. BETULA, Tourn.

860. **B. lenta,** L.

861. **B. lutea,** Michx. f.

862. **B. papyracea,** Ait.

Rather rare. Goat Is., Niagara Falls; Youngstown, Niagara Co.

863. **B. pumila,** L.

Very rare. Tonawanda Swamp, Dr. *C. M. Booth.*

### 388. ALNUS, Tourn.

864. **A. incana,** Willd.

865. **A. serrulata,** Ait.

Very rare. A few specimens on Squaw Is., Niagara R.

## Order 89. Salicaceæ.

### 389. SALIX, Tourn.

866. **S. candida,** Willd.

Rare. Bergen, Gen. Co.; Caledonia, Liv. Co., *Clinton.*

867. **S. tristis,** Ait. ?

868. **S. humilis,** Marshall.

869. **S. discolor,** Muhl.

870. **S. sericea,** Marshall.

871. **S. petiolaris,** Smith.

872. **S. purpurea,** L.

873. **S. cordata,** Muhl.

874. **S. livida,** Wahl., var. **occidentalis,** Gray.

875. **S. lucida,** Muhl.

876. **S. nigra,** Marsh.

Squaw Is., Niagara R., and elsewhere.

877. S. FRAGILIS, L.

878. S. ALBA, L.

879. **S. longifolia,** Muhl. ?

Rare. Pt. Abino, Ont.

880. **S. myrtilloides,** L.

Rare. Near Akron, Erie Co.

### 390. POPULUS, Tourn.

881. P. ALBA, L.

In cultivation, and spreading by the root.

882. **P. tremuloides,** Michx.

883. **P. grandidenta,** Michx.

884. **P. monolifera,** Ait.

Rather rare. Squaw Is., Niagara R.; near Ft. Erie, Ont., *Clinton.*

885. **P. angulata,** Ait. ?

Found by *J. A. Paine,* at Braddock's Bay, Lake Ontario, Monroe Co., and therefore probably within our territory.

886. **P. balsamifera,** L.

Rather rare. Squaw Is., Niagara R.

The variety **candicans,** Gray, is common in cultivation, but probably not indigenous here.

887. P. DILATATA, L.

Common in cultivation and spreading by the root.

## Subclass II. GYMNOSPERMÆ.

### Order 90. Coniferæ.

391. PINUS, Tourn.

888. **P. resinosa,** Ait.
Rare. Portage, Wyom. Co.

889. **P. Strobus,** L.

392. TSUGA, Endl.

890. **T. Canadensis,** Carriere. (*Abies Canadensis*, Michx.)

393. ABIES, Tourn.

891. **A. balsamea,** Marshall.
Rare. Collins, Erie Co.

394. PICEA, Link.

892. **P. nigra,** Link.
Rare. Port Colborne, Ont.; Machias, Catt. Co., *Clinton.*

395. LARIX, Tourn.

893. **L. Americana,** Michx.

396. THUJA, Tourn.

894. **T. occidentalis,** L.

397. JUNIPERUS, L.

895. **J. communis,** L.
Rare. Ft. Erie, Ont.; Pt. Abino, Ont.

896. **J. Virginiana,** L.
Rare. Pt. Abino, Ont.; Black Cr., Ont.; Goat Is. and the banks of Niagara R., below the Falls.

897. **J. Sabina,** L., var. **procumbens,** Pursh.
Rare. Bergen Swamp, Gen. Co.; Caledonia, Liv. Co.

398. TAXUS, Tourn.

898. **T. baccata,** L., var. **Canadensis,** Gray.

## Class II. ENDOGENÆ.

### Order 91. Araceæ.

#### 399. ARISÆMA. Martius.

899. **A. triphyllum,** Torr.

900. **A. Dracontium,** Schott.

Rare. Scajauquady's Cr., east of Main street, Buffalo; Sulphur Spring, W. Seneca, Erie Co., *Clinton;* Portage, Liv. Co., *Clinton;* Salamanca, Catt. Co.

#### 400. PELTANDRA, Raf.

901. **P. Virginica,** Raf.

Rather rare. Southeastern portion of Buffalo, along the lake shore; Niagara Falls, *Clinton;* Caledonia, Liv. Co., *Clinton;* Jamestown, Chat. Co.

#### 401. CALLA, L.

902. **C. palustris,** L.

Rather rare. Near Pine Hill, Cheektowaga, Erie Co.; Port Colborne, Ont.; Hanover, Chat. Co.; near Dayton, Catt. Co., and elsewhere.

#### 402. SYMPLOCARPUS, Salisb.

903. **S. fœtidus,** Salisb.

Formerly abundant in a ravine west of Delaware and south of Virginia street, Buffalo. The station now built over. Tonawanda, Niag. Co., and Tonawanda Is., *Clinton;* Machias, Catt. Co. One plant seen near the L. S. & M. S. R. R. bridge, where it crosses Buffalo R.

#### 403. ACORUS, L.

904. **A. Calamus,** L.

### Order 92. Lemnaceæ.

#### 404. LEMNA, L.

905. **L. trisulca,** L.

906. **L. minor,** L.

#### 405. SPIRODELA, Schleiden.

907. **S. polyrrhiza,** Schleiden.

#### 406. WOLFFIA, Horckel, Schleiden.

908. **W. Columbiana,** Karsten. ?

Rare. Niagara R., near Grand Is., Prof. *D. S. Kellicott.* Possibly our plant may prove to be *W. Braziliensis,* Karsten.

## Order 93. Typhaceæ.

### 407. TYPHA, Tourn.

909. **T. latifolia**, L.

910. **T. angustifolia**, L.

Rare. At Whirlpool, Niagara R., American side. *Clinton.*

### 408. SPARGANIUM, Tourn.

911. **S. eurycarpum**, Engetm.

912. **S. simplex**, Hudson, var. **Nuttallii**, Gray.

Rather rare. Squaw Is., Niagara R.

## Order 94. Naiadaceæ.

### 409. NAIAS, L.

913. **N. flexilis**, Rostk.

### 410. ZANNICHELLIA, Micheli.

914. **Z. palustris**, L.

In a pond near Ft. Porter, Buffalo; Niagara R., *Clinton.*

### 411. POTAMOGETON, Tourn.

915. **P. natans**, L.

Rather rare. Niagara R., near Strawberry Is.. *Clinton.*

916. **P. hybridus**, Michx.

Rare. Black Cr., Ont., *Clinton.*

917. **P. gramineus**, L., var. **heterophyllus**, Fries.

918. **P. lucens**, L.

Not common. Niagara R.; Lime Lake. Machias, Catt. Co., *Clinton.*

919. **P. prælongus**, Wulfen.

920. **P. perfoliatus**, L.

921. **P. compressus**, L.

922. **P. Niagarensis**, Tuckerman.

Rare. "Rapids above Niagara Falls, *Tuckerman.*" (Gray's Manual.) Not detected by us.

923. **P. pauciflorus**, Pursh.

924. **P. pusillus**, L.

925. **P. pectinatus**, L.

926. **P. Robbinsii**, Oakes.

## Order 95. Alismaceæ.

### 412. TRIGLOCHIN, L.

927. **T. palustre**, L.

Rather rare. Lake shore, near Ft. Erie, Ont.; Strawberry Is., Niagara R., *Clinton.*

928. **T. maritimum,** L., var. **elatum,** Gray.
Rare. Bergen, Gen. Co., *J. A. Paine.*

413. SCHEUCHZERIA, L.

929. **S. palustris,** L.
Rare. Hanover, Chat. Co.

414. ALISMA, L.

930. **A. Plantago,** L., var. **Americanum,** Gray.

415. SAGITTARIA, L.

931. **S. variabilis,** Engelm.

932. **S. heterophylla,** Pursh, var. **rigida,** Gray.

## Order 96. Hydrocharidaceæ.

416. ANACHARIS, Richard.

933. **A. Canadensis,** Planchon.

417. VALLISNERIA, Micheli.

934. **V. spiralis,** L.

## Order 97. Orchidaceæ.

418. ORCHIS, L.

935. **O. spectabilis,** L.
Rare. W. Seneca, Erie Co.; Williamsville, Erie Co.; Hamburgh, Erie Co.

419. HABENARIA, Willd., R. Br.

936. **H. virescens,** Spreng.

937. **H. viridis,** R. Br. var. **bracteata,** Reichenbach.

938. **H. hyperborea,** R. Br.

939. **H. dilatata,** Gray.
Rare. Hanover, Chat. Co.; Java, Wyom. Co., *Clinton.*

940. **H. Hookeri,** Torr.
Rather rare. Forest Lawn Cemetery, Buffalo; Tonawanda, Erie Co.

941. **H. orbiculata,** Torr.
Rather rare. Near Pine Hill, Cheektowaga, Erie Co.; W. Seneca, Erie Co., *J. F. Cowell;* Hanover, Chat. Co.

942. **H. blephariglottis,** Hook., var. **holopetala,** Gray.
Rare. Hanover, Chat. Co.

943. **H. lacera,** R. Br.

Seemingly rare, but perhaps overlooked. Woods east of Delaware street and north of the Park, Buffalo.

944. **H. psycodes,** Gray.

945. **H. peramœna,** Gray.

Rare. Collins, Erie Co.. *J. F. Cowell;* Cassadaga Lake, Chat. Co.

420. GOODYERA, R. Br.

946. **G. repens,** R. Br.

Rare. Southeastern portion of Buffalo; Hanover, Chat Co.; Salamanca, Catt. Co.

947. **G. pubescens,** R. Br.

Rather rare. Near Pine Hill, Cheektowaga, Erie Co., and elsewhere.

421. SPIRANTHES, Richard.

948. **S. latifolia,** Torr.

949. **S. Romanzoviana,** Chamisso. ?

Rare. Hanover, Chat. Co.

950. **S. cernua,** Richard.

951. **S. gracilis,** Bigelow.

Rare. The Plains, Buffalo.

422. LISTERA, R. Br.

952. **L. cordata,** R. Br.

Rare. Spring Brook, Elma, Erie Co., *D. S. Kellicott;* Angola. Erie Co., *Clinton;* "Rock City," near Salamanca. Catt. Co.

423. ARETHUSA, Gronov.

953. **A. bulbosa,** L.

Rare. Hanover, Chat. Co.; Cassadaga Lake, Chat. Co., *Clinton;* Bergen Swamp, Gen. Co.; Machias, Catt. Co.

424. POGONIA, Juss.

954. **P. ophioglossoides,** Nutt.

Rather rare. Hanover, Chat. Co.; Machias, Catt. Co.

955. **P. pendula,** Lindl.

Very rare. W. Seneca, Erie Co., near Smoke's Cr. Detected only by *Junius S. Smith.*

425. CALOPOGON, R. Br.

956. **C. pulchellus,** R. Br.

Rather rare. Hanover, Chat. Co.; near Akron. Erie Co.; Machias, Catt. Co.

426. CALYPSO, Salisb.

957. **C. borealis**, Salisb.

Very rare. A single plant noticed in Bergen Swamp, by Dr. *C. M. Booth.*

427. MICROSTYLIS, Nutt.

958. **M. monophyllos**, Lindl.

Rare. Machias, Catt. Co.; Bergen, Gen. Co., *J. A. Paine.*

428. LIPARIS, Richard.

959. **L. lilifolia**, Richard.

Very rare. Observed only in a wood near Ft. Erie, Ont.

960. **L. Lœselii**, Richard.

Rather rare. Strawberry Is., Niagara R., *Clinton;* Hamburgh, Erie Co.; Machias, Catt. Co.; Bergen Swamp, Gen. Co., *J. A. Paine.*

429. CORALLORRHIZA, Haller.

961. **C. innata**, R. Br.

Rare. Near Pine Hill, Cheektowaga, Erie Co.; Cassadaga Lake, Chat. Co.

962. **C. multiflora**, Nutt.

**C. Macræi**, Gray.

Attributed, by Gray's Manual, to Caledonia Springs, Ont., which brings the plant nearly within our territory. Not detected by us.

430. APLECTRUM, Nutt.

963. **A. hyemale**, Nutt.

Rather rare. The Plains, Buffalo. *Clinton;* Smoke's Cr., W. Seneca, Erie Co.; near Pine Hill, Cheektowaga, Erie Co.

431. CYPRIPEDIUM, L.

964. **C. candidum**, Muhl.

Very rare. Bergen Swamp, Gen. Co., *Clinton.*

965. **C. parviflorum**, Salisb.

966. **C. pubescens**, Willd.

967. **C. spectabile**, Swartz.

Rare. Formerly growing in the Sphagnous Swamp, excavated to form "The Lake" in Buffalo Park. Alden, Erie Co.; Bergen, Gen. Co.; Salamanca, Catt. Co.; Machias, Catt. Co.

968. **C. acaule**, Ait.

Rather rare. Hamburgh, Erie Co.; Eighteen-mile Cr., Evans, Erie Co.; near Port Colborne, Ont.; Cassadaga Lake, Chat. Co.

## Order 98. Iridaceæ.

### 432. IRIS, L.

969. **I. versicolor,** L.

### 433. PARDANTHUS, Ker.

970. P. Chinensis, Ker.
Spontaneous in gardens, Buffalo.

### 434. SISYRINCHIUM, L.

971. **S. Bermudiana,** L.

## Order 99. Dioscoreaceæ.

### 435. DIOSCOREA, Plumier.

972. **D. villosa,** L.
Rare. A single specimen observed in the woods east of Delaware street and north of the Park, Buffalo; but said to occur, in considerable quantities, along Niagara R., between Black Rock and Tonawanda, Erie Co., *J. F. Cowell.*

## Order 100. Smilaceæ.

### 436. SMILAX, Tourn.

973. **S. rotundifolia,** L.
Rare. W. Seneca, Erie Co.

974. **S. hispida,** Muhl.
975. **S. herbacea,** L.

## Order 101. Liliaceæ.

### 437. TRILLIUM, L.

976. **T. grandiflorum,** Salisb.
977. **T. erectum,** L.
978. var. **album,** Pursh.
979. **T. erythrocarpum,** Michx.

### 438. MEDEOLA, Gronov.

980. **M. Virginica,** L.

### 439. ZYGADENUS, Michx.

981. **Z. glaucus,** Nutt.
Rare. Bergen Swamp, Gen. Co., *Clinton.*

### 440. VERATRUM, Tourn.

982. **V. viride,** Ait.

441. CHAMÆLIRIUM, Willd.

983. **C. luteum**, Gray.

Rare. The Plains, Buffalo; in woods between Foster Flat and Stanford Station, on the Canada Southern Railway, Ont.

442. TOFIELDIA, Hudson.

984. **T. glutinosa**, Willd.

Rare. Bergen Swamp. Gen. Co., *Clinton*.

443. UVULARIA, L.

985. **U. grandiflora**, Smith.

986. **U. perfoliata**, L.

Rare. Eighteen-mile Cr., Evans, Erie Co.; Silver Lake, Wyom. Co., *Clinton*.

444. OAKESIA, Watson.

987. **O. sessilifolia**, Watson. (*Uvularia sessilifolia*. L.)

445. PROSARTES, Don.

988. **P. lanuginosa**, Don.

446. STREPTOPUS, Michx.

989. **S. roseus**, Michx.

447. CLINTONIA, Raf.

990. **C. borealis**, Raf.

Rather rare. Alden, Erie Co.; Machias, Catt Co.; "Rock City," near Salamanca, Catt. Co.

991. **C. umbellata**, Torr.

Rare. Hanover, Chat. Co.; "Rock City," near Salamanca, Catt. Co.; Bemus Pt., Chatauqua Lake.

448. SMILACINA, Desf.

992. **S. racemosa**, Desf.

993. **S. stellata**, Desf.

994. **S. trifolia**, Desf.

Rather rare. Black Cr. Swamp, Ont., *Clinton*; Bergen, Gen. Co.; Machias, Catt. Co.

995. **S. bifolia**, Ker.

449. POLYGONATUM, Tourn.

996. **P. biflorum**, Ell.

997. **P. giganteum**, Dietrich.

450. ASPARAGUS, L.

998. A. OFFICINALIS, L.

Frequently escaped; well established near Ft. Erie, Ont.

451. LILIUM, L.

999. **L. Philadelphicum**, L.
1000. **L. Canadense**, L.
1001. **L. superbum**, L.

452. ERYTHRONIUM, L.

1002. **E. Americanum**, Smith.
1003. **E. albidum**, Nutt.

Rare. Forest Lawn Cemetery, Buffalo; W. Seneca, Erie Co.; Alden, Erie Co., Dr. *Ernst Wende.*

453. ALLIUM, L.

1004. **A. tricoccum**, Ait.
1005. **A. Canadense**, Kalm.

454. HEMEROCALLIS, L.

1006. H. FULVA, L.

Occasionally found as a garden outcast. Buffalo and elsewhere.

ORDER 102. JUNCACEÆ.

455. LUZULA, DC.

1007. **L. pilosa**, Willd.
1008. **L. campestris**, DC.

456. JUNCUS, L.

1009. **J. effusus**, L.
1010. **J. Balticus**, Dethard.

Rather rare. Shore of Lake Erie, and Niagara R., Buffalo.

1011. **J. bufonius**, L.
1012. **J. tenuis**, Willd.
1013. **J. articulatus**, L.
1014. var. **pelocarpus**, Gray. (*J. pelocarpus*, E. Meyer.)

Avon, Liv. Co., *Sartwell.*

1015. **J. acuminatus**, Michx.
1016. var. **debilis**, Engelm.
1017. var. **legitimus**, Engelm.
1018. **J. nodosus**, L.
1019. var. **megacephalus**, Torr.
1020. **J. Canadensis**, J. Gay.
1021. var. **coarctatus**, Engelm.

ORDER 103. PONTEDERIACEÆ.

457. PONTEDERIA, L.

1022. **P. cordata**, L.

458. SCHOLLERA, Schreber.

1023. **S. graminea,** Willd.

ORDER 104. ERIOCAULONACEÆ.

459. ERIOCAULON, L.

1024. **E. septangulare,** Withering.
Rare. Chatauqua Lake, near Mayville.

ORDER 105. CYPERACEÆ.

460. CYPERUS. L.

1025. **C. diandrus,** Torr.
1026. var. **castaneus,** Torr.
1027. **C. phymatodes,** Muhl.
With us sometimes, if not always, **diandrous.**
1028. **C. strigosus,** L.
1029. **C. Michauxianus,** Schultes.
1030. **C. Schweinitzii,** Torr.
1031. **C. filiculmis,** Vahl.

461. DULICHIUM, Richard.

1032. **D. spathaceum,** Pers.

462. ELEOCHARIS, R. Br.

1033. **E. obtusa,** Schultes.
1034. **E. palustris,** R. Br.
1035. **E. rostellata,** Torr.
Bergen Swamp, Gen. Co., *Clinton.*
1036. **E. tenuis,** Schultes.
1037. **E. acicularis,** R. Br.

463. SCIRPUS, L.

1038. **S. pauciflorus,** L.
Rare. Portage, Gen. Co., on wet rocks near the Falls, *Clinton;* Bergen Swamp, Gen. Co., *J. A. Paine.*
1039. **S. cæspitosus,** L.
Rare. Bergen Swamp, Gen. Co., *Clinton.*
1040. **S. Clintonii,** Gray.
Rare. Northeastern portion of Buffalo.
1041. **S. planifolius,** Muhl.
1042. **S. pungens,** Vahl.
1043. **S. Torreyi,** Olny.
Rather common on Strawberry Is., Niagara R., *Clinton;* Bergen Swamp, Gen. Co., *J. A. Paine.*

1044. **S. validus,** Vahl.

1045. **S. fluviatilis,** Gray.

Rare. Southeastern portion of Buffalo, *Clinton.*

1046. **S. sylvaticus,** L.

1047. **S. atrovirens,** Muhl.

1048. **S. lineatus,** Michx.

1049. **S. Eriophorum,** Michx.

464. ERIOPHORUM, L.

1050. **E. vaginatum,** L.

Rare. Java Lake, Wyom. Co., *Clinton.*

1051. **E. Virginicum,** L.

1052. **E. polystachyon,** L.

var. **angustifolium,** Gray.

Rare. Portage, Wyom. Co., *Clinton.*

1053. **E. gracile,** Koch.

Rare. Hanover, Chat. Co.; Machias, Catt. Co.

465. RHYNCOSPORA, Vahl.

1054. **R. alba,** Vahl.

Rather rare. Hanover, Chat. Co.

1055. **R. capillacea,** Torr.

Rare. Wind-mill Pt., Ont.; Bergen Swamp, Gen. Co., *J. A. Paine.*

466. CLADIUM, P. Browne.

1056. **C. mariscoides,** Torr.

Rare. Near Port Colborne, Ont.; Bergen Swamp, Gen. Co., *Clinton.*

467. SCLERIA, L.

1057. **S. verticillata,** Muhl.

Rare. Bergen Swamp, Gen. Co., *Clinton.*

468. CAREX.

1058. **C. gynocrates,** Wormskiold.

Rare. Bergen Swamp, Gen. Co., *Clinton.*

1059. **C. pauciflora,** Lightfoot.

Rare. Machias, Catt. Co., *Clinton;* Cassadaga Lake, Chat. Co.

1060. **C. polytrichoides,** Muhl.

1061. **C. bromoides,** Schk.

1062. **C. siccata,** Dew.

Rare. Bergen Swamp, Gen. Co., *Clinton.*

1063. **C. disticha,** Huds.

1064. C. teretiuscula, Good, var. major., Koch.
Rare. Bergen Swamp, Gen. Co., *Clinton*.

1065. C. vulpinoidea, Michx.

1066. C. stipata, Muhl.

1067. C. sparganioides, Muhl.

1068. C. Muhlenbergii, Schk.

1069. C. rosea, Schk.

1070. C. retroflexa, Muhl.

1071. C. tenella, Schk.
Rather rare. Buffalo; Bergen Swamp, Gen. Co., *Clinton*.

1072. C. trisperma, Dew.
Rather rare. Wheelbarrow Pt., Buffalo R., *Clinton*.

1073. C. tenuiflora, Wahl.
Rare. Near Akron, Erie Co.

1074. C. canescens, L.

1075. C. sterilis, Willd.
Rare. Bergen Swamp, Gen. Co., *Clinton*.

1076. C. stellulata, L.

1077. C. scoparia, Schk.

1078. C. cristata, Schw.

1079. C. straminea, Schk.

1080. C. aquatilis, Wahl. ?

1081. C. torta, Boott.

1082. C. stricta, Lam.

1083. C. crinita, Lam.

1084. C. limosa, L.
Rather rare. Near Akron, Erie Co.

1085. C. Buxbaumii, Wahl.
Rare. Bergen Swamp, Gen. Co., *J. A. Paine*.

1086. C. aurea, Nutt.
Rather rare. Wind-mill Pt., Ont., and elsewhere along the shore of Lake Erie.

1087. C. vaginita, Tausch.
Rare. Bergen Swamp. Gen. Co,, *Clinton*.

1088. C. Crawei, Dew.
Rare. Wind-mill Pt., Ont., *Clinton ;* Bergen Swamp, Gen. Co., *J. A. Paine*.

1089. C. granularis, Muhl.

1090. C. pallescens, L.

1091. C. grisea, Wahl.

1092. C. virescens, Muhl.

1093. C. triceps, Michx.

1094. **C. plantaginea**, Lam.
1095. **C. platyphylla**, Carey.
1096. **C. retrocurva**, Dew.
1097. **C. digitalis**, Willd.
1098. **C. laxiflora**, Lam.
1099. var. **plantaginea**, Boott.
1100. **C. Hitchcockiana**, Dew.
1101. **C. eburnea**, Boott.
1102. **C. pedunculata**, Muhl.
Rare. Near Sulphur Springs, Cheektowaga, Erie Co.
1103. **C. Novæ-Angliæ**. Schw.
1104. **C. Emmonsii**, Dew. ?
1105. **C. Pennsylvanica**, Lam.
1106. **C. pubescens**, Muhl.
1107. **C. miliacea**, Muhl.
1108. **C. scabrata**, Schw.
Rare. Portage, Wyom. Co., *Clinton*.
1109. **C. arctata**, Boott.
1110. **C. debilis**, Michx.
1111. **C. flava**, L.
Rather rare. Near Batavia, *Clinton*.
1112. **C. Œderi**, Ehrh.
Rather rare. Wind-mill Pt., Ont.; Niagara Falls.
1113. **C. filiformis**, L.
Rare. Near Batavia. Gen. Co., *Clinton*.
1114. **C. lanuginosa**, Michx.
1115. **C. riparia**, Curtis.
1116. **C. trichocarpa**, Muhl.
1117. **C. comosa**, Boott.
1118. **C. Pseudo-Cyperus**, L.
1119. **C. hystricina**, Willd.
Rare. Bergen Swamp, Gen. Co., *Clinton*.
1120. **C. tentaculata**, Muhl.
Rare. Bergen Swamp, Gen. Co., *Clinton*.
1121. **C. intumescens**, Rudge.
1122. **C. Grayii**, Carey.
Sheldon, Wyom. Co., *Clinton*.
1123. **C. lupulina**, Muhl.
1124. **C. lupuliformis**, Sartwell.
1125. **C. folliculata**, L.
1126. **C. retrosa**, Schw.
1127. **C. utriculata**, Boott.
1128. **C. Tuckermani**, Boott.
1129. **C. oligosperma**, Michx.

## Order 106. Gramineæ.

### 469. LEERSIA, Solander.

1130. **L. Virginica,** Willd.
1131. **L. oryzoides,** Swartz.

### 470. ZIZANIA, Gronov.

1132. **L. aquatica,** L.

### 471. ALOPECURUS, L.

1133. A. GENICULATUS, L.
1134. **A. aristulatus.** Michx.
Rather rare. Near Port Colborne, Ont.

### 472. PHLEUM, L.

1135. P. PRATENSE, L.

### 473. VILFA, Adans., Beauv.

1136. **V. vaginæflora, Torr.**

### 474. SPOROBOLUS, R. Br.

1137. **S. cryptandrus,** Gray.

### 475. AGROSTIS, L.

1138. **A. perennans,** Tuckerman.
Rather rare. Alabama Swamp, Gen. Co., *Clinton.*

1139. **A. scabra,** Willd.
1140. **A. vulgaris,** With.
1141. **A. alba,** L.

### 476. CINNA, L.

1142. **C. arundinacea,** L.

### 477. MUHLENBERGIA, Schreber.

1143. **M. glomerata,** Trin.
Rare. Niagara Falls, *Clinton.*

1144. **M. Mexicana,** Trin.
Rare. Niagara Falls, *Clinton.*

1145. **M. sylvatica,** Torr. and Gray.
1146. **M. Willdenovii,** Trin.
1147. **M. diffusa,** Schreber.
Whirlpool woods, Niagara R., Ont., *Clinton;* Springville, Erie Co., *Clinton.*

### 478. BRACHYELYTRUM, Beauv.

1148. **B. aristatum,** Beauv.

### 479. CALAMAGROSTIS, Adans.

1149. **C. Canadensis,** Beauv.

1150. C. **arenaria**, Roth.
Rare. Rose's Pt., Ont., *Clinton;* Pt. Abino, Ont.

480. ORYZOPSIS, Michx.

1151. O. **melanocarpa**, Muhl.
1152. O. **asperifolia**, Michx.

481. SPARTINA, Schreber.

1153. S. **cynosuriodes**, Willd.

482. TRIPLASIS, Beauv.

1154. T. **purpurea**, Beauv. (*Tricuspis purpurea*, Gray.)
Found only along the shore of Lake Erie.

483. DACTYLIS, L.

1155. D. GLOMERATA, L.

484. CYNOSURUS, L.

1156. C. CRISTATUS, L.
Introduced by means of "Lawn Grass Seed." Buffalo. Precarious.

485. EATONIA, Raf.

1157. E. **obtusata**, Gray.
1158. E. **Pennsylvanica**, Gray.

486. MELICA, L.

1159. M. **mutica**, Walt. ?
Perhaps this grass has been confounded by us with another.

487. GLYCERIA, R. Br., Trin.

1160. G. **Canadensis**, Trin.
1161. G. **elongata**, Trin.
1162. G. **nervata**, Trin.
1163. G. **pallida**, Trin.
1164. G. **aquatica**, Smith.
1165. G. **fluitans**, R. Br.

488. POA, L.

1166. P. **annua**, L.
1167. P. **compressa**, L.
1168. P. **serotina**, Ehrh.
1169. P. **pratensis**, L.
1170. P. TRIVIALIS, L.
1171. P. **sylvestris**, Gray.
1172. P. **alsodes**, Gray.

489. ERAGROSTIS, Beauv.

1173. E. POÆOIDES, Beauv., var. **megastachya**, Gray.
Rare. Near Ft. Erie, Ont.

490. FESTUCA, L.

1174. **F. tenella,** Willd.
Rare. Sand-dunes at Evans, Erie Co., *Clinton*.

1175. **F. ovina,** L., var. **duriuscula,** Gray.

1176. F. ELATIOR, L.

1177. **F. nutans,** Willd.

491. BROMUS, L.

1178. B. SECALINUS, L.

1179. B. RACEMOSUS, L.

1180. B. MOLLIS. L.
Rare. In a lawn, Buffalo, *Clinton*. Hardly established.

1181. **B. Kalmii,** Gray.

1182. **B. ciliatus,** L.

1183. var. **purgans,** Gray.

492. PHRAGMITES. Trin.

1184. **P. communis,** Trin.
Squaw Is., and other islands of Niagara R.

493. LOLIUM, L.

1185. L. PERENNE, L.
Rare. In lawns, Buffalo.

494. TRITICUM, L.

1186. **T. repens,** L.

1187. **T. caninum,** L.

495. HORDEUM, L.

1188. **H. jubatum,** L.
Introduced. Buffalo. Hardly established. Silver Creek, Chat. Co., *E. S. Burgess*.

496. ELYMUS, L.

1189. **E. Virginicus,** L.

1190. **E. Canadensis,** L.

1191. **E. striatus,** Willd.

497. GYMNOSTICHUM, Schreb.

1192. **G. Hystrix,** Schreb.

498. DANTHONIA, DC.

1193. **D. spicata,** Beauv.

499. AVENA, L.

1194. **A. striata,** Michx.

500. AIRA, L.

1195. **A. flexuosa**, L.
1196. **A. cæspitosa**, L.
Rare. Bergen Swamp, Gen. Co., *Paine*.

501. ARRHENATHERUM, Beauv.

1197. A. AVENACEUM, Beauv.
Rare. Port Abino, Ont.

502. PHALARIS, L.

1198. P. CANARIENSIS, L.
Accidental and precarious, Buffalo.
1199. **P. arundinacea**, L.

503. MILIUM, L.

1200. **M. effusum**, L.

504. PANICUM.

1201. P. GLABRUM, Gaudin.
1202. P. SANGUINALE, L.
1203. **P. capillare**, L.
1204. **P. virgatum**, L.
1205. **P. latifolium**, L.
1206. **P. clandestinum**, L.
1207. **P. dichotomum**, L.
1208. **P. depauperatum**, Muhl.
1209. **P. Xalapense**, ?
Rare. Northeastern portion of Buffalo, *Clinton*. Probably the remnant of cultivation.
1210. P. CRUS-GALLI, L.
1211. var. HISPIDUM, Gray.

505. SETARIA, Beauv.

1212. S. GLAUCA, Beauv.
1213. S. VIRIDIS, Beauv.
1214. S. ITALICA, Kunth.

506. ANDROPOGON, L.

1215. **A. furcatus**, Muhl.
1216. **A. scoparius**, Michx.

507. SORGHUM, Pers.

1217. **S. nutans**, Gray.

# Series II. CRYPTOGAMÆ.

## Class III. ACROGENÆ.

### Order 107. Equisetaceæ.

#### 508. EQUISETUM, L.

1218. **E. arvense**, L.

1219. **E. sylvaticum**, L.

Rare. Near Sulphur Spring, Cheektowaga, Erie Co.; near Pine Hill, Cheektowaga, Erie Co.

1220. **E. palustre**, L.

Squaw Is., Niagara River.

1221. **E. limosum**, L.

Southeastern portion of Buffalo.

1222. **E. hyemale**, L.

1223. **E. variegatum**, Schleicher.

Rare. Niagara Falls.

1224. **E. scirpoides**, Michx.

Rare. Whirlpool, Niagara River, Ont.

### Order 108. Ophioglossaceæ.

#### 509. BOTRYCHIUM, Swartz.

1225. **B. lanceolatum**, Angstrœm.

Rare. Cassadaga Lake, Chat. Co.

1226. **B. Virginianum**, Swartz.

1227. **B. ternatum**, Swartz, var. **lunarioides**, D. C. Eaton.

1228. var. **dissectum**, D. C. Eaton.

#### 510. OPHIOGLOSSUM, L.

1229. **O. vulgatum**, L.

Rare. The Plains, Buffalo; near Smoke's Creek, West Seneca, Erie Co., *Clinton;* head of Grand Is., Niagara River, *Clinton;* Henrietta, Gen. Co., *J. A. Paine.*

### Order 109. Filices.

#### 511. POLYPODIUM, L.

1230. **P. vulgare**, L.

512. ADIANTUM, L.

1231. **A. pedatum,** L.

513. PTERIS, L.

1232. **P. aquilina,** L.

Attaining at Machias, Catt. Co., the height of eight feet and upwards.

514. PELLÆA, Link.

1233. **P. atropurpurea,** Link.

Rare. Niagara River, at and below the Falls.

515. WOODWARDIA, Smith.

1234. **W. Virginica,** Smith.

Rare. Near "Counterfeiters' Ledge," Akron, Erie Co.; Cassadaga, Chaut. Co.

516. ASPLENIUM, L.

1235. **A. Trichomanes,** L.

1236. **A. ebeneum,** Ait.

Rare. Pt. Abino, Ont.; Lewiston, Niag. Co.

1237. **A. angustifolium,** Michx.

Rather rare. Machias, Catt. Co.; Clear Cr., Catt. Co., and elsewhere.

1238. **A. thelypteroides,** Michx.

1239. **A. Filix-fœmina,** Bernh.

517. CAMPTOSORUS, Link.

1240. **C. rhizophyllus,** Link.

Rare. Whirlpool woods and Foster's Flat, Niagara River, Canadian side.

518. PHEGOPTERIS, Fée.

1241. **P. polypodioides,** Fée.

Rare. N. Collins, Erie Co.

1242. **P. hexagonoptera,** Fée.

Rather rare. W. Seneca, Erie Co., and elsewhere.

1243. **P. Dryopteris,** Fée.

Rare. Alden, Erie Co.; Devil's Hole, Niagara River; Machias, Catt. Co.

519. ASPIDIUM, Swartz.

1244. **A. Thelypteris,** Swartz.

1245. **A. Noveboracense,** Swartz.

1246. A. spinulosum, Swartz.
1247. var. intermedium, Eaton.
1248. A. cristatum, Swartz.
1249. var. Clintonianum, Eaton.
Detected by Judge Clinton. Locality unrecorded.

1250. A. Goldianum, Hook.
1251. A. marginale, Swartz.
1252. A. acrostichoides, Swartz.
1253. var. incisum, Eaton.
Salamanca, Catt. Co., *Clinton*.

520. CYSTOPTERIS, Bernh.

1254. C. bulbifera, Bernh.
1255. C. fragilis, Bernh.
Smoke's Creek, W. Seneca, Erie Co.; near Youngstown, Niag. Co.; elsewhere not common.

521. STRUTHIOPTERIS, Willd.

1256. S. Germanica, Willd.

522. ONOCLEA, L.

1257. O. sensibilis, L.

523. DICKSONIA, L'Her.

1258. D. pilosuiscula, Willd. (D. punctilobula, Kunze.)
Southern towns of Erie Co.

524. OSMUNDA, L.

1259. O. regalis, L.
1260. O. Claytoniana, L.
1261. O. cinnamomea, L.

## Order 110. Lycopodiaceæ.

525. LYCOPODIUM, L.

1262. L. lucidulum, Michx.
1263. L. annotinum, L.
1264. L. dendroideum, Michx.
1265. L. clavatum, L.
1266. L. complanatum, L.

## Order 111. Selaginellaceæ.

### 526. SELAGINELLA, Beauv.

1267. **S. rupestris,** Spring.
Rare. Cliffs of Niagara River, near the Devil's Hole.

1268. **S. Apus,** Spring.

### 527. ISOETES, L.

1269. **I. echinospora,** Durieu, var. **Braunii,** Engelm.

## Order 112. Salviniaceæ.

### 528. AZOLLA, Lam.

1270. **A. Caroliniana,** Willd.
Rare Burnt Ship Bay, Grand Is., Niagara River, *Clinton;* Niagara Falls, Dr. *J. W. Robbins.*

## Class IV. ANOGENÆ.

### Order 113. Musci.

#### 529. SPHAGNUM, Ehrh.

1271. **S. cymbifolium,** Ehrh.
1272. **S. squarrosum,** Pers.
1273. **S. cuspidatum,** Ehrh.
Hamburgh, Erie Co.
1274. **S. acutifolium,** Ehrh.

#### 530. PHASCUM, L.

1275. **P. muticum,** Schreb.

#### 531. GYMNOSTOMUM, Hedw.

1276. **G. curvirostrum,** Hedw.
Niagara Falls, near the American staircase.

#### 532 WEISIA, Hedw.

1277. **W. viridula,** Brid.
On the edge of a stone quarry east of Forest Lawn Cemetery, Buffalo.

#### 533. SELIGERIA, Br. and Sch.

1278. **S. recurvata,** Br. and Sch.
Devil's Hole, Niagara River; Caledonia, Liv. Co.
1279. **S. calcarea,** Br. and Sch.
Devil's Hole, Niagara Co.

#### 534. CAMPYLOPUS, Brid.

1280. **C. viridis,** Sulliv. and Lesq.

#### 535. DICRANUM, Hedw.

1281. **D. virens,** Hedw.
1282. **D. varium,** Hedw.
Forest Lawn Cemetery, Buffalo; Portage, Gen. Co.
1283. **D. heteromallum,** Hedw.
1284. **D. montanum,** Hedw.
"Goat Is., Niagara Falls, Lesquereux," *Sullivant.*
1285. **D. flagellare,** Hedw.
1286. **D. interruptum,** Br. and Sch.

1287. **D. scoparium,** Hedw.
Eighteen Mile Creek, Evans, Erie Co.; Corfu, Gen. Co.

1288. **D. undulatum,** Turn.

1289. **D. palustre,** Brid.
Rare. Whirlpool, Niagara River, American side.

536. LEUCOBRYUM, Hampe.

1290. **L. glaucum,** L.

537. FISSIDENS, Hedw.

1291. **F. minutulus,** Sulliv.

1292. **F. bryoides,** Hedw.
In a green-house, Buffalo.

1293. **F. taxifolius,** Hedw.
Niagara Falls, *Lesquereux.*

1294. **F. adiantoides,** Hedw.

1295. **F. grandifrons,** Brid.
Niagara Falls, by the American staircase; Goat Is., at the Cascade; Caledonia Creek, Liv. Co., where it grows submerged.

538. CONOMITRIUM, Mont.

1296. **C. Julianum,** Mont.
Smoke's Creek, W. Seneca, Erie Co.

539. POTTIA, Ehrh.

1297. **P. truncata,** Br. and Sch.
Near Forest Lawn Cemetery, Buffalo.

540. DESMATODON, Brid.

1298. **D. arenaceus,** Sulliv. and Lesq.
Rare. Devil's Hole, Niagara River; Foster's Flat, Niagara River; Portage, Wyom. Co.

541. BARBULA, Hedw.

1299. **B. unguiculata,** Hedw.
Near Forest Lawn Cemetery, Buffalo; Whirlpool, Niagara River; Portage, Wyom. Co.

1300. **B. cæspitosa,** Schwægr.

1301. **B. tortuosa,** Web. and Mohr.
Niagara Falls.

1302. **B. mucronifolia,** Schwægr.
Devil's Hole, Niagara River; Portage, Wyom. Co.

542. TRICHOSTOMUM, Br. and Sch.

1303. **T. tortile**, Schrad.

1304. **T. pallidum**, Hedw.

Near the "Forks," Cheektowaga, Erie Co.

543. DIDYMODON, Br. and Sch.

1305. **D. rubellus**, Roth.

Goat Is., Niagara River.

1306. **D. luridus**, Hornsch.

Rare. Niagara Falls, on a dry rock near the shore, from one-eighth to one-fourth of a mile below the American staircase. "This fine species was found by Drummond in 1818 at "Niagara Falls; but had not been detected since that time, "until 1865, when it was re-discovered as shown above." C. H. Peck, in Reg. Rep., 1866.

544. CERATODON, Brid.

1307. **C. purpureus**, Brid.

Forest Lawn Cemetery, Buffalo.

545. TETRAPHIS, Hedw.

1308. **T. pellucida**, Hedw.

Pine Hill, Cheektowaga, Erie Co.

546. ENCALYPTA, Schrad.

1309. **E. streptocarpa**, Hedw.

"Counterfeiter's Ledge," Akron, Erie Co.

547. ORTHOTRICHUM, Hedw.

1310. **O. cupulatum**, Hoff.

On beech trees, Rose's Point, Ont.; "Niagara Falls, Drummond," *Sullivant.*

1311. **O. anomalum**, Hedw.

Rare. Forest Lawn Cemetery, Buffalo; rocks and trees, Niagara Falls.

1312. **O. strangulatum**, Beauv.

1313. **O. Ohioense**, Sull. and Lesq.

1314. **O. affine**, Schrad.

1315. **O. leiocarpum**, Br. and Sch.

1316. **O. Hutchinsiæ**, Hook and Tayl.

1317. **O. Ludwigii**, Schwægr.

1318. **O. crispum**, Hedw.

Hall's Station, Niagara Co.

1319. **O. crispulum**, Hornsch.

Salamanca, Catt. Co.

548. DRUMMONDIA, Hook.

1320. **D. clavellata,** Hook.

549. SCHISTIDIUM, Schp.

1321. **S. apocarpum,** Hedw.
1322. **S. confertum,** Funk.

550. HEDWIGIA, Ehrh.

1323. **H. ciliata,** Ehrh.

551. APHANORHEGMA, Sulliv.

1324. **A. serrata,** Sulliv.

552. PHYSCOMITRIUM, Brid.

1325. **P. pyriforme,** Brid.

553. FUNARIA, Schreb.

1326. **F. flavicans,** Michx.
Rare. Buffalo.

1327. **F. hygrometrica,** Hedw.

1328. var. **calvescens,** Br. and Sch.
Wet, springy places, Buffalo.

554. BARTRAMIA, Hedw.

1329. **B. Muhlenbergii,** Schwægr.
Niagara Falls.

1330. **B. pomiformis,** Hedw.
1331. **B. Œderi,** Swartz.
Akron, Erie Co.; Devil's Hole, Niagara River.

555. BRYUM, Dill.

1332. **B. acuminatum,** Hoppe and Hornsch.
Very rare. "Rock City," near Salamanca, Catt. Co.

1333. **B. nutans,** Schreb.
1334. **B. Wahlenbergii,** Schwægr.
1335. **B. pyriforme,** L.
1336. **B. intermedium,** Brid.
Lockport, Niagara Co.

1337. **B. bimum,** Schreb.
Niagara Falls.

1338. **B. roseum,** Schreb.
1339. **B. capillare,** Hedw.
Buffalo.

1340. **B. cyclophyllum,** Br. and Sch.
Caledonia Creek, near Seth Green's, Liv. Co.

1341. **B. turbinatum,** Hedw.
Very rare. "Wet rocks, below Niagara Falls," *Sullivant.*

1342. **B. cæspiticium,** L.

1343. **B. atropurpureum,** Web. and Mohr.
Very rare. Forest Lawn Cemetery, Buffalo.

556. MNIUM, Br. and Sch.

1344. **M. serratum,** Brid.
Not common. Smoke's Creek, W. Seneca, Erie Co.

1345. **M. lycopodioides,** Hook.

1346. **M. cuspidatum,** Hedw.

1347. **M. affine,** Bland.

1348. **M. spinulosum,** Br. and Sch.

1349. **M. rostratum,** Schwægr.
Devil's Hole, Niagara River.

1350. **M. punctatum,** Hedw.

557. AULACOMNION, Schwægr.

1351. **A. palustre,** Schwægr.

558. TIMMIA, Hedw.

1352. **T. megapolitana,** Hedw.
Near Scajauquady's Creek, Buffalo ; Pine Hill, Cheektowaga, Erie Co.

559. ATRICHUM, Beauv.

1353. **A. undulatum,** Beauv.
Smoke's Creek, W. Seneca, Erie Co.

1354. **A. angustatum,** Beauv.
Smoke's Creek, W. Seneca, Erie Co.

560. POGONATUM, Beauv.

1355. **P. brevicaule,** Brid.
Boston, Erie Co.; Salamanca, Catt. Co.

561. POLYTRICHUM, L.

1356. **P. formosum,** L.

1357. **P. juniperinum,** Hedw.

1358. **P. commune,** L.

562. FONTINALIS, Dill.

1359. **F. antipyretica,** L., var. **gigantea,** Sulliv.
Hall's Station, Niagara Co. ; Salamanca, Catt. Co.

1360. **F. Lescurii,** Sulliv. ?
Caledonia, Liv. Co.

563. DICHELYMA, Myrin.

1361. **D. capillaceum,** Dill.
Angola, Erie Co.

564. LEUCODON, Schwægr.

1362. **L. julaceus,** Hedw.

565. LEPTODON, Mohr.

1363. **L. trichomitrion,** Mohr.

566. ANOMODON, Hook and Tayl.

1364. **A. viticulosus,** Hook and Tayl.
Niagara Falls ; Whirlpool, Niagara River, Canadian side.

1365. **A. apiculatus,** Br. and Sch.
Akron, Erie Co.

1366. **A. obtusifolius,** Br. and Sch.

1367. **A. attenuatus,** Hartm.

567. LESKEA, Hedw.

1368. **L. polycarpa,** Ehrh.

1369. **L. nervosa,** Schwægr.
Niagara Falls.

1370. **L. rostratra,** Hedw.
Forest Lawn Cemetery, Buffalo.

568. THELIA, Sulliv.

1371. **T. hirtella,** Sulliv.
"The Plains," Buffalo.

1372. **T. asprella,** Sulliv.

569. PYLAISÆA, Schp.

1373. **P. intricata,** Hedw.

1374. **P. velutina,** Schp.

570. HOMALOTHECIUM, Schp.

1375. **H. subcapillatum,** Schp.
Devil's Hole, Niagara River.

571. PLATYGYRIUM, Schp.

1376. P. repens, Brid.

572. CYLINDROTHECIUM, Schp.

1377. C. cladorrhizans, Hedw.
1378. C. seductrix, Hedw.

573. NECKERA, Hedw.

1379. N. pennata, Hedw.

574. CLIMACIUM, Web. and Mohr.

1380. C. Americanum, Brid.
1381. C. dendroides, Web. and Mohr.

575. HYPNUM, L.

1382. H. tamariscinum, Hedw.
1383. H. delicatulum, C. Mull.
1384. H. minutulum, Hedw.
1385. H. pygmæum, Bryol. Europ.
Rare. Foster's Flat, Niagara River, Ont.
1386. H. gracile, Bryol. Europ.
1387. H. abietinum, L.
Niagara Falls and the Whirlpool.
1388. H. triquetrum, L.
1389. B. Blandowii, Web. and Mohr.
Rare. Caledonia, Liv. Co.
1390. H. brevirostre, Ehrh.
1391. H. splendens, Hedw.
1392. H. Alleghaniense, C. Mull.
Rare. Devil's Hole, Niagara River.
1393. H. hians, Hedw.
1394. H. Sullivantii, Spruce.
1395. H. strigosum, Hoffm.
1396. H. diversifolium, Bryol. Europ.
Rare. Near Forest Lawn Cemetery, Buffalo.
1397. H. serrulatum, Hedw.
1398. H. cylindricarpum, C. Mull.
1399. H. recurvans, Schwægr.
1400. H. cuspidatum, L.
1401. H. Schreberi, Willd.
1402. H. cordifolium, Hedw.
1403. H. giganteum, Schp.
Caledonia Creek, Liv. Co.

1404. **H. uncinatum**, Hedw.
1405. **H. revolvens**, Swartz.
Bergen Swamp, Gen. Co,; Caledonia, Liv. Co.

1406. **H. aduncum**, Hedw.; var. **giganteum**, Bryol. Europ.
Big Bay, Strawberry Is., Niagara River.

1407. var. **gracilescens.**
Wet, marshy grounds, Buffalo.

1408. **H. filicinum**, L.
1409. **H. Crista-Castrensis**, L.
1410. **H. molluscum**, Hedw.
1411. **H. imponens**, Hedw.
1412. **H. reptile**, Michx.
1413. **H. curvifolium**, Hedw.
1414. **H. Haldanianum**, Grev.
1415. **H. rugosum**, Ehrh.
Rare. Niagara Falls; Whirlpool woods.

1416. **H. nitens**, Schreb.
1417. **H. lætum**, Brid.
1418. **H. acuminatum**, Beauv.
Rare. Portage, Wyom. Co.

1419. **H. rutabulum**, L.
Forest Lawn Cemetery, Buffalo.

1420. **H. plumosum**, L.
1421. **H. rivulare**, Brch.
Rare. Devil's Hole, Niagara River.

1422. **H. stellatum**, Schreb.
Bergen Swamp, Gen. Co.

1423. **H. polymorphum**, Brch.
1424. **H. subtile**, Hoffm.
Whirlpool woods.

1425. **H. minutissimum**, Sulliv. and Lesq.
"Counterfeiter's Ledge," Akron, Erie Co.

1426. **H. Sprucei**, Brch.
Goat Is., Niagara Falls, *James*.

1427. **H. adnatum**, Hedw.
1428. **H. serpens**, Hedw.
1429. **H. radicale**, Brid.
1430. **H. orthocladon**, Beauv.
1431. **H. noterophilum**, Sulliv. and Lesq.
Caledonia, Liv. Co.

1432. **H. riparium**, Hedw.
Smoke's Creek, W. Seneca, Erie Co.

1433. **H. denticulatum**, L.

1434. **H. Muhlenbeckii**, Bryol. Europ.

1435. **H. cariosum**, Sulliv.

## Order 114. Hepaticæ.

### 576. RICCIA, Mich.

1436. **R. natans**, L.
Burnt Ship Bay, Grand Is., Niagara River.

1437. **R. fluitans**, L.
With *R. fluitans*.

1438. **R. sorocarpa**, Bisch.
Forest Lawn Cemetery, Buffalo.

### 577. LUNULARIA, Mich.

1439. **L. vulgaris**, Mich.
Conservatories, Buffalo.

### 578. MARCHANTIA, L.

1440. **M. polymorpha**, L.

### 579. PREISSIA, Nees.

1441. **P. commutata**, Nees.
Niagara Falls, near the American staircase.

### 580. FEGETALLA, Raddi.

1442. **F. conica**, Corda.
Goat Is., Niagara Falls; Pt. Colborne, Ont.; Bergen, Gen. Co.

### 581. ANEURA, Dumortier.

1443. **A. palmata**, Nees.

### 582. PELLIA, Raddi.

1444. **P. epiphylla**, Nees.
Smoke's Creek, W. Seneca, Erie Co.

### 583. CHILOSCYPUS, Corda.

1445. **C. polyanthos**, Corda.

### 584. LOPHOCOLEA, Nees.

1446. **L. heterophylla**, Nees.
Portage, Gen. Co.

585. SPHAGNŒCETIS, Nees.

1447. **S. communis**, Nees.
Bergen, Gen. Co.

586. JUNGERMANNIA, L.

1448. **J. curvifolia**, Dickson.
1449. **J. bicuspidata**, L.
Bergen, Gen. Co.
1450. **J. Schraderi**, Martius.

587. PLAGIOCHILA, Nees and Montague.

1451. **P. poreloides**, Lindenb.
Frenchman's Creek, Ont.

588. FRULLANIA, Raddi.

1452. **F. Eboracensis**, Lehm.

589. MADOTHECA, Dumortier.

1453. **M. platyphylla**, Dumort.

590. RADULA, Nees.

1454. **R. complanata**, Dumort.
1455. **R. pallens**, Nees. ?

591. PTILIDIUM, Nees.

1456. **P. ciliare**, Nees.

592. TRICHOCOLEA, Nees.

1457. **T. Tomentella**, Nees.
Bergen Swamp, Gen. Co.; Whirlpool, Ont.

593. MASTIGOBRYUM, Nees.

1458. **M. tridenticulatum**, Lindenb.

594. LEPIDOZIA, Nees.

1459. **L. reptans**, Nees.

## Class V. THALLOGENÆ.

### Order 116. Lichenes.

595. RAMALINA, Ach.

1460. R. calicaris, Fr., var. fraxinea, Fr.
1461. var. farinacea, Fr.

596. CETRARIA, Ach.

1462. C. sæpincola, Ach.
Lime Lake, Machias, Catt. Co.

1463. C. ciliaris, Ach.
1464. C. lacunosa, Ach.
1465. C. glauca, Ach.
1466. C. Oakesiana, Tuck.
1467. C. juniperina, Ach.
Lime Lake, Machias, Catt. Co.

597. EVERNIA, Ach.

1468. E. furfuracea, Mann.
1469. E. prunastri, Ach.

598. USNEA, Ach.

1470. U. barbata, Fr.
1471. var. florida, Fr.
1472. var. hirta, Fr.
1473. var. rubiginea, Michx.
1474. var. dasypoga, Fr.

599. ALECTORIA, Nyl.

1475. A. jubata, Ach.
1476. var. chalybeiformis, Ach.
1477. var. implexa, Fr.

600. THELOSCHISTES, Tuck.

1478. T. parietinus, Norm., var. lychnea, Schr.
1479. var. polycarpus, Fr.
1480. T. chrysopthalmus, L.
Niagara Falls.

1481. candelarius, Ach., var. stellata, Nyl.

601. PARMELIA, De Not.

1482. P. crinita, Ach.
1483. P. perforata, Ach.

1484. P. perlata, Ach , var. olivitorum, Ach.
1485. P. tiliacea, Ach.
1486. P. Borreri, Turn., var. rudecta, Tuck.
1487. P. saxatilis, Fr.
1488. P. lævigata, Ach.
1489. P. pertusa, Schr.
1490. P. physodes, Ach., var. enteromorpha, Tuck.
1491. P. colpodes, Ach.
1492. P. caperata, Ach.
1493. P. conspersa, Ach.
1494. P. olivacea, Ach.

602. PHYSCIA, Fr.

1495. P. ciliaris, Ach. var. angustata, Tuck.
Niagara Falls.
1496. P. aquila, Nyl. var. detonsa, Tuck.
1497. P. pulverulenta, Nyl., var. pityrea, Fr.
1498. P. speciosa, Wulf., var. stellata, Tuck.
1499. var. hypoleuca, Ach.
1500. var. leucomela, (Escheo.)
1501. var. galactophylla, Tuck.
1502. P. stellaris, Nyl., var. aipola, Schr.
1503. var. astroidea, Tuck., tribacia, Fr.
1504. P. obscura, Nyl.
1505. var. ciliata, Tuck.
1506. var. erythrocardia, Tuck.

603. PYXINE, Fr.

1507. P. cocoes, Nyl., var. sorediata, Tuck.

604. STICTA, Delis.

1508. S. pulmonaria, Ach.
1509. S. glomerulifera, Delis.

605. NEPHROMA, Ach.

1510. N. lævigatum, Ach., var. parile, Ach.
1511. N. tomentosum, Kœrb.
1512. var. Helveticum, Schr.

606. PELTIGERA, Fée.

1513. P. apthosa, Hoffm.
1514. P. canina, Hoffm.
1515. P. polydactyla, Hoffm.
1516. P. rufescens, Hoffm.
1517. P. horizontalis, Hoffm.

607. PANNARIA, Delis.

1518. P. lanuginosa, Kœrb.
1519. P. rubiginosa, Ach.
1520. P. lurida, Nyl.
1521. P. tryptophylla, Ach.
1522. P. microphylla, Del.
1523. P. leucosticta, Tuck.
1524. P. nigra, Huds., Nyl.

608. EPHEBE, Fr.

1525. E. ————————

Infertile. Portage, Wyom. Co.

609. SYNALLISSA, Tuck.

1526. S. ————————

Infertile. Portage, Wyom. Co.

610. COLLEMA, (Hoff.) Fr.

1527. C. pycnocarpum, Nyl.
1528. C. cyrtaspis, Tuck.
1529. C. microphyllum, Ach.
1530. C. nigrescens, (Huds.) Ach.
1531. C. pulposum, (Bernh.) Ach.
1532. C. limosum, (Ach.) Nyl.
1533. C. flaccidum, Ach.

611. LEPTOGIUM, Fr.

1534. L. lacerum, (Sw.) Fr.
1535. L. pulchellum, (Ach.) Nyl.
1536. L. tremelloides, (L. fil.) Fr.
1537. L. chloromelum, (Sw.) Nyl.
1538. L. myochroum, (Ehrh.) Schær.
1539. var. saturninum, (Dicks.) Tuck.

612. PLACODIUM, (DC.) Næg. and Hepp.

1540. P. aurantiacum, (Lightf.) Næg.
1541. P. cerinum, (Hedw.) Næg.
1542. var. stillicidiorum, Ach.
1543. P. rupestre, (Scop.) Nyl.
Niagara Falls.
1544. P. vitellinum, (Ehrh.) Ach.

613. LECANORA Ach.

1545. **L. muralis,** (Schreb.) Schær.
1546. **L. tartarea,** Ach., var. arborea.
1547. **L. subfusca,** (L.) Ach.
1548. var. **Hageni,** Ach.
1549. var. **nigrofusca,** Tuck.
1550. **L. Hageni,** Ach.

Niagara Falls.

1551. **L. albella,** Ach., var. **angulosa,** Fr
1552. var. **caesio-rubella,** (Ach.)
1553. **L. varia,** (Ehrh.) Fr.
1554. **L. cinerea,** (L.) Sommf.
1555. **L. verrucosa,** (Ach.) Laur.
1556. **L. cervina,** (Pers.) Sommf.
1557. var. **squamulosa,** Fr.
1558. var. **pruinosa,** Ach.
1559. var. **privigna,** Ach.
1560. var. **simplex,** Kœrb.
1561. var. **clavus,** DC.

614. RINODINA, Mass.

1562. **R. sophodes,** (Ach ) Moss., var. **confragosa,** Nyl.
1563. **R. Ascociscana,** Tuck.
1564. **R. Bischoffii,** (Hepp.) Kœrb.

Williamsville, Erie Co.

1565. **R. constans,** Nyl.
1566. **R. milliaria,** Tuck.

615. PERTUSARIA, DC.

1567. **P. pertusa,** (L.) Ach.
1568. **P. leioplaca,** Ach.
1569. **P. velata,** (Turn.) Nyl.
1570. **P. pustulata,** Aug.
1571. **P. globularis,** Ach.

616. CONOTREMA, Tuck.

1572. **C. urceolatum,** Tuck.

617. GYALECTA, (Ach.) Anzi.

1573. **G. lutea,** Dicks.
1574. **G. pineti,** Schrad.
1575. **G. cupularis,** (Hedw.) Schær.

### 618. URCEOLARIA, Flot.

1576. **U. scruposa**, Ach., var. **bryophila**, Ach.
1577. var. **ochroleuca**, Tuck.

### 619. MYRIANGIUM, Mont. and Berk.

1578. **M. Curtissii**, Mont. and Berk.

### 620. STEREOCAULON, Schreb.

1579. **S. paschale**, Laur.

### 621. CLADONIA, Hoffm.

1580. **C. alcicornis**, Fr.
1581. **C. pyxidata**, (L.) Fr.
1582. var. **cæspiticia**, Nyl.
1583. **C. cariosa**, (Ach.) Spreng.
1584. **C. fimbriata**, (L.) Fr.
1585. **C. gracilis**, (L.) Fr.
1586. var. **verticillata**, Fr.
1587. var. **symphicarpa**, Tuck.
1588. **C. mitrula**, Tuck.
1589. **C. furcata**, (Huds.) Fr.
1590. var. **crispata**, Flk.
1591. var. **cristata**, Fr.
1592. var. **racemosa**, Flk.
1593. var. **subulata**, Flk.
1594. **C. squamosa**, Hoffm.
1595. **C. rangiferina**, Hoffm.
1596. var. **sylvatica**, L.
1597. var. **alpestris**, L.
1598. **C. cornucopioides**, Fr.
1599. **C. macilenta**, Hoffm.
1600. **C. cristatella**, Tuck.

### 622. BÆOMYCES, Pers.

1601. **B. roseus**, Pers.

### 623. BIATORA, Fr.

1602. **B. Russellii**, Tuck.
1603. **B. coarctata**, (Ach.) Th. Fr.
1604. **B. viridescens**, (Schrad.) Fr.
1605. **B. sanguineo-atra**, Fr.

1606. **B. exigua,** (Chaub.) Fr.
1607. **B. uliginosa,** (Schrad.) Fr.
1608. **B. atropurpurea,** Mass.
1609. **B. hypnophila,** Turn.
1610. **B. rubella,** (Ehrh.) Rabenh.
1611. var. **spadicea,** Tuck.
1612. var. **Schweinitzii,** Tuck.
1613. var. **incompta,** Nyl.
1614. var. **inundata,** Fr.
1615. var. **muscorum,** Nyl.
1616. **B. chlorantha,** Tuck., var. **saxicola,** Willey.

624. HETEROTHECIUM, Flot.

1617. **H. sanguinarium,** (L.), Flot.

625. LECIDEA, Ach.

1618. **L. albo-cœrulescens,** Fr.
1619. **L. contigua,** Fr.
1620. **L. enteroleuca,** Ach.
1621. **L. melancheima,** Tuck.
1622. **L. glaucospora,** Tuck.

626. BUELLIA, De Not.

1623. **B. atro-alba,** (Flot.)
1624. var. **chlorospora,** Nyl.
1625. **B. parasema,** (Ach.) Kœrb.
1626. **B. dialyta,** Nyl.
1627. **B. myriocarpa,** (DC.) Mudd.
1628. **B. turgescens,** Nyl.
1629. **B. albo-atra,** (Hoffm.) Nyl.

627. OPEGRAPHA, Ach.

1630. **O. varia,** (Pers.) Fr.
1631. **O. viridis,** Pers.

628. GRAPHIS, Ach.

1632. **G. scripta,** (L.) Ach.

629. LECANACTIS, Eschw.

1633. **L. premnea,** Ach.
1634. var. **chloroconia,** Tuck.

630. ARTHONIA, Ach.

1635. **A. lecideela,** Nyl.
1636. **A. astroidea,** (Ach.) Nyl.

1637. A. punctiformis, Ach.
1638. A. spectabilis, Flot.

631. MYCOPORUM, Nyl.

1639. M. pycnocarpum, Nyl.

632. CALICIUM, Pers.

1640. C. brunneolum, Ach.
1641. C. curtum, Turn. and Borr.
1642. C. lenticulare, (Hoffm.) Ach.
1643. C. Curtissii, Tuck.

633. CONIOCYBE, Ach.

1644. C. furfuracea, (L.) Ach.
1645. C. pallida, (Pers.) Fr.

634. ENDOCARPON, Hedw.

1646. E. miniatum, (L.) Schær.
1647. E. arboreum, Schwein.
1648. E. hepaticum, Ach.
1649. E. pusillum, Hedw.

635. TRYPETHELIUM, Spreng.

1650. T. virens, Tuck.

636. SAGEDIA, Kœrb.

1651. S. oxyspora, (Nyl.) Tuck.

637. STAUROTHELE, Norm.

1652. S. Drummondii, Tuck.
Niagara Falls.

638. VERRUCARIA, Pers.

1653. V. papillosa, (Ach.) Kœrb.
1654. V. margacea, (Wahl.) Nyl.
1655. V. nigrescens, Pers.
1656. V. virens, Nyl.
1657. V. muralis, Ach.
1658. V. pyrenophora, (Ach.) Nyl.

639. PYRENULA, Ach.

1659. P. thelæna, (Ach.) Tuck.
1660. P. punctiformis, (Ach.) Næg.
1661. P. gemmata, (Ach.) Næg.
1662. P. leucoplaca, (Wallr.) Kœrb.
1663. P. nitida, Ach.

## Order 116. Fungi.

BY CHAS. H. PECK, STATE BOTANIST.

The following list of Fungi is based upon specimens collected by Hon. George W. Clinton and identified chiefly by me. Many of the species are represented in the Herbarium of the State Cabinet of Natural History by specimens contributed by Judge Clinton, and have been specially noticed in the Annual Reports of the Regents of the University on the condition of the Cabinet. In view of this fact references are given to places in those Reports where the species have been mentioned.

The rapid progress made in the development of mycological science within the few years just past requires numerous changes in nomenclature. The synonymy incident to the changes, and, in a few instances, to errors of identification, has been given in the list and in a few cases extended even beyond its connection with the Reports mentioned. C. H. P.

### Sub-order 1. HYMENOMYCETES.

#### 640. AGARICUS, L.

§ 1. *AMANITA*, Fr.

1664. **A. vaginatus,** Bull. Reg. Rep. 23, p. 69.
Woods.

1665. **A. phalloides,** Fr. Reg. Rep. 23, p. 69.
Woods.

§ 2. *LEPIOTA*, Fr.

1666. **A. procerus,** Scop, Reg. Rep. 23, p. 71.
Woods and fields.

1667. **A. Friesii,** Lasch. Reg. Rep. 26, p. 49.
Woods.

1668. **A. acutesquamosus,** Weinm. Reg. Rep. 23, p. 71.
In a grapery. In the second edition of Epicrisis, Fries makes this a subspecies of the preceding, and indeed the American specimens of the two forms run suspiciously near to each other.

1669. **A. cristatus,** Fr. Reg. Rep. 23, p. 72.
In a grapery, Feb. and March.

1670. **A. Americanus,** Pk. Reg. Rep. 23, p. 71.
Grassy ground, rarely on stumps.

1671. **A. cepæstipes,** Sow. Reg. Rep. 27, p. 92.
Tan bark in Hon. William G. Fargo's greenhouse.

1672. var. **luteus,** Fr.
With the typical form.

1673. **A. granulosus,** Batsch. Reg. Rep. 23, p. 72: ibid. 24, p. 102.
Woods and open places. The forms *A. carcharias* and *A. amianthinus*, which in the first edition of Epicrisis are given as subspecies of *A. granulosus*, in the second, are raised to the rank of species. The latter occurs in the eastern and northern parts of the State and will probably be found in the western part also.

1674. **A. naucinoides,** Pk. Reg. Rep. 29, p. 66. (*A. naucinus*, Fr. Reg. Rep. 23, p. 72.)
Fields and grassy places.

§ 3. *ARMILLARIA*, Fr.

1675. **A. melleus,** Vahl. Reg. Rep. 23, p. 73.
Woods and fields, especially about stumps.

§ 4. *TRICHOLOMA*, Fr.

1676. **A. variegatus,** Scop. Reg. Rep. 23, p. 74.
Woods and pastures, about stumps.

1677. **A. multipunctus,** Pk. Reg. Rep. 25, p. 73.
Old logs in woods.

1678. **A. personatus,** Fr. Reg. Rep. 23, p. 75.
Woods and pastures.

§ 5. *CLITOCYBE*, Fr.

1679. **A. nebularis,** Batsch. Reg. Rep. 23, p. 76.
Pine woods.

1680. **A. clavipes,** Pers. (*A. carinosior*, Pk. Reg. Rep. 23, p. 76. *C. pinus*, Frost, Cat. and Ms.)
Pine woods.

1681. **A. Adirondackenis,** Pk. Reg. Rep. 23, p. 77.
Fallen leaves in woods.

1682. **A. Poculum,** Pk. Reg. Rep. 23, p. 77.
Decaying wood in woods. This scarcely differs from *A. cyathiformis*, Fr., except in not having the stem "fibrillose-reticulated;" but as that is given as an essential mark of the species, it seems best to consider the American plant distinct.

1683. **A. infundibuliformis,** Schaeff. Reg. Rep. 23, p. 76.
Pine woods, etc.

1684. **A. metachrous,** Fr. Reg. Rep. 23, p. 78.
Pine woods.

1685. **A. illudens,** Schw. Reg. Rep. 23, p. 77.
Decaying wood and stumps.

1686. **A. laccatus,** Scop. Reg. Rep. 23, p. 77: ibid. 31, p. 54.
Damp woods and open places. An extremely variable species. Small forms are very unlike the large ones in appearance, but intermediate forms connect them too closely for specific separation. Large forms sometimes approach very near the next species. In both the lamellæ are not infrequently as distinctly emarginate as in species of *Tricholoma*.

1687. **A. ochropurpureus,** Berk. Reg. Rep. 23, p. 77: ibid, 31, p. 34.
Thin woods and open places.

§ 6. *COLLYBIA*, Fr.

1688. **A. radicatus,** Relh. Reg. Rep. 23, p. 79.
Woods, especially of beech.

1689. **A. platyphyllus,** Pers. (*A. hordus*, Fr.) Reg. Rep. 25, p. 73.
Woods, especially about stumps and logs.

1690. **A. velutipes,** Curt Reg. Rep. 23, p. 79.
Decaying wood and stumps.

1691. **A. dryophilus,** Bull. Reg. Rep. 23, p. 79.
Woods, groves and pastures.

1692. **A. myriadophyllus,** Pk. Reg. Rep. 25, p. 75.
Decaying wood in woods.

1693. **A. cirrhatus,** Schum. Reg. Rep. 23, p. 80.
Vegetable mold and decaying fungi.

1694. **A. tuberosus,** Bull. Reg. Rep. 23, p. 80.
Vegetable mold and decaying fungi.

§ 7. *MYCENA*, Fr.

1695. **A. purus,** Pers. Reg. Rep. 23, p. 82.
Pine woods.

1696. **A. galericulatus,** Scop. Reg. Rep. 23, p. 81.
Decaying wood and ground in woods or damp places.

1697. **A. epipterygius,** Scop. Reg. Rep. 23, p 83.
Woods.

1698. **A. Leaianus,** Berk. Reg. Rep. 24, p. 62.
Decaying beech logs and branches.

1699. **A. leptophyllus,** Pk. Reg. Rep. 24, p. 63.
Mossy logs in woods.

1700. **A. subincarnatus,** Pk. Reg. Rep. 23, p. 83.
Under pine trees.

1701. **A. corticola,** Schum. Reg. Rep. 23, p. 84.
Mossy trunks of living elm, chestnut and apple trees. This fungus revives on the application of moisture, thereby indicating an affinity with species of *Marasmius*.

§ 8. *OMPHALIA*. Fr.

1702. **A. Campanella,** Batsch. Reg. Rep. 23, p 85.
Decaying wood in woods and open places.

1703. **A. Fibula.** Bull. Reg. Rep. 23, p. 86.
Mossy ground in woods and old fields.

1704. **A. gracillimus,** Weinm. Reg. Rep. 25, p. 76.
Fallen leaves and twigs in woods.

§ 9. *PLEUROTUS*, Fr.

1705. **A. sapidus,** Kalchbr. Reg. Rep. 29, p. 38.
Decaying wood, stumps and trunks of trees. The spores of this fungus are lilac-tinted when caught on white paper, but on a dark back-ground they appear sordid-white. The spores of *A. ostreatus* are said to be white. It is probable that these species are frequently confused. I am not sure that we have the true white-spored *A. ostreatus.*

1706. **A. salignus,** Fr. Reg. Rep. 22, p. 77.
Mossy base of trees.

1707. **A. petaloides,** Bull. Reg. Rep. 22, p. 77.
Old logs and stumps.

1708. **A. serotinus,** Schrad. Reg. Rep. 31, p. 54. (*P. serotinoides*, Pk.) Reg. Rep. 23, p. 86.
Old logs in woods. This is a mere form of the preceding species, differing chiefly in wanting the squamulose points on the stem.

1709. **A. porrigens,** Pers. Reg. Rep. 24, p. 64.
Decaying wood in woods.

1710. **A. nidulans,** Pers. (*Panus dorsalis*, Bosc.) Reg. Rep. 22, p. 81; 30, p. 71.
Decaying wood in woods. *A. nidulans*, Pers., and *Panus dorsalis*, Bosc., have evidently been confused, if indeed they are really distinct species. The specimen of "*Panus dorsalis*, Bosc." in Ravenel's Fung. Car. Exsic. II, No. 13, is clearly not distinct from *A. nidulans*, Pers. Our specimens have the beautiful incarnate-colored spores attributed by Fries to *A. nidulans.*

1711. **A. atrocæruleus,** Fr. Reg. Rep. 22, p. 77.
Decaying wood.

1712. **A. applicatus,** Batsch. Reg. Rep. 22, p. 78.
Decaying wood.

1713. **A. striatulus,** Fr. Reg. Rep. 30, p. 39.
Decaying pine wood.

§ 10. *VOLVARIA*, Fr.

1714. **A. bombycinus,** Schæff.
Dead spots in maple trees.

§ 11. *PLUTEUS*, Fr.

1715. **A. cervinus,** Schæff. Reg. Rep. 23, p. 87.
Decaying wood and stumps.

1716. **A. admirabilis,** Pk. Reg. Rep. 24, p. 64.
Old logs in woods.

§ 12. *ENTOLOMA*, Fr.

1717. **A. Grayanus,** Pk. Reg. Rep. 24, p. 64.

§ 13. *CLITOPILUS*, Fr.

1718. **A. abortivus,** B. and C. Reg. Rep. 24, p. 66.
Woods.

§ 14. *LEPTONIA*, Fr.

1719. **A. asprellus,** Fr. Reg. Rep. 24, p. 66.
Swamps and sphagnous marshes.

§ 15. *CLAUDOPUS*, Sm.

1720. **A. variabilis,** Pers. Reg. Rep. 24, p. 69.
Decaying wood.

§ 16. *PHOLIOTA*, Fr.

1721. **A. adiposus,** Fr. Reg. Rep. 23, p. 90.
Decaying wood.

1722. **A. squarrosus,** Mull. Reg. Rep. 24, p. 67.
Decaying wood.

§ 17. *HEBELOMA*, Fr.

1723. **A. communis,** Pk. Reg. Rep. 23, p. 106: ibid. 30, p. 70.
Woods and open places.

§ 18. *INOCYBE*, Fr.

1724. **A. subochraceus,** Pk. Reg. Rep. 23, p. 95.
Groves and open places.

1725. **A. Colvinii,** Pk. Reg. Rep. 28, p. 49.
Sandy beach of the lake.

§ 19. *FLAMMULA*, Fr.

1726. **A. spumosus,** Fr. (*A. polycbrous*, Berk.) Reg. Rep. 23, p. 91.
Pastures, fields and borders of woods.

§ 20. *NAUCORIA*, Fr.

1727. **A. semiorbicularis,** Bull. Reg. Rep. 23, p. 93.
Woods and fields.

1728. **A. autumnalis,** Pk. Reg. Rep. 23, p. 92.
Decaying wood in woods.

§ 21. *GALERA*, Fr.

1729. **A. sphagnorum,** Pers. Reg. Rep. 23, p. 94.
Sphagnous marshes.

§ 22. *CREPIDOTUS*, Fr.

1730. **A. dorsalis,** Pk. Reg. Rep. 24, p. 69.
Decaying wood.

1731. **A. fulvotomentosus,** Pk. Reg. Rep. 26, p. 57.
Decaying wood.

§ 23. *PSALLIOTA*, Fr.

1732. **A. silvaticus,** Schæff. Reg. Rep. 26, p. 59: ibid. 28, p. 85.
Woods.

§ 24. *STROPHARIA*, Fr.

1733. **A. semiglobatus,** Batsch. Reg. Rep. 23, p. 98.
Dung and mushroom beds.

§ 25. *HYPHOLOMA*, Fr.

1734. **A. sublateritius,** Schæff. Reg. Rep. 31, p. 54. (*A. perplexus*, Pk. Reg. Rep. 23, p. 99.)
Old logs and stumps. The differences between *A. sublateritius* and *A. perplexus* are so slight that it seems best to unite them.

1735. **A. appendiculatus,** Bull. (*A. cernuus*, Mull.) Reg. Rep. 23, p. 100.
Decaying wood in woods and open places.

1736. **A. incertus,** Pk. Reg. Rep. 29, p. 40.
Copses and grassy places.

§ 26. *PANÆOLUS*, Fr.

1737. **A. campanulatus,** L. Reg. Rep. 23, p. 102.
Dung heaps.

1738. **A. papilionaceus,** Bull. Reg. Rep. 23, p. 101.
Dung heaps and rich soil.

641. COPRINUS, Fr.

1739. **C. comatus,** Fr. Reg. Rep. 23, p. 103.
Rich or manured ground.

1740. **C. atramentarius,** Bull. Reg. Rep. 22, p. 79: ibid. 24, p. 102.
Rich or manured ground.

1741. **C. tomentosus,** Bull. Reg. Rep. 23, p. 104.
Dung heaps.

1742. **C. semilanatus,** Pk. Reg. Rep. 24, p. 71.
Dung heaps and rich ground.

1743. **C. niveus,** Pers. Reg. Rep. 23, p. 104.
Dung heaps.

1744. **C. micaceus,** Bull. Reg. Rep. 23, p. 104.
On and about old stumps.

642. CORTINARIUS, Fr.

1745. **C. vernalis,** Pk. Reg. Rep. 23, p. 112.
Wet ground in woods and pastures.

643. PAXILLUS, Fr.

1746. **P. atrotomentosus,** Batsch. Reg. Rep. 22, p. 79.
Decaying logs and stumps in woods.

1747. **P. porosus,** Berk,
Ground and decaying wood.

644. HYGROPHORUS, Fr.

1748. **H. ceraceus,** Wulf. Reg. Rep. 23, p. 113.
Open woods.

1749. **H. miniatus,** Fr.
Woods and swamps. I suspect that *H. congelatus,* Reg. Rep. 23, p. 114, is a mere form of this species.

1750. **H. eburneus,** Bull. Reg. Rep. 26, p. 64.
Open woods.

645. LACTARIUS, Fr.

1751. **L. volemus,** Fr. Reg. Rep. 23, p. 116.
Woods and open places. Fries and other continental authors write the specific name "volemus," but some English authors write it "volemum."

1752. **L. camphoratus,** Fr. Reg. Rep. 23, p. 117.
Woods.

646. CANTHARELLUS, Adans.

1753. **C. cibarius,** Fr. Reg. Rep. 23, p. 122.
Woods and grassy places.

1754. **C. aurantiacus,** Wulf. Reg. Rep. 23, p. 123.
Damp woods.

1755. **C. floccosus,** Schw. Reg. Rep. 23, p. 122.
Woods.

1756. **C. minor,** Pk. Reg. Rep. 23, p. 122.
Thin woods.

647. MARASMIUS, Fr.

1757. **M. oreades,** Bolt. Reg Rep. 23, p. 124.
Grassy fields, roadsides, etc.

1758. **M. archyropus,** Pers.
Woods.

1759. **M. erythropus,** Fr. (*M. plancus*, Fr.) Reg. Rep. 23, p. 125.
Woods.

1760. **M. rotula,** Scop. Reg. Rep 23, p. 125.
Dead leaves and sticks.

1761. **M. campanulatus,** Pk. Reg. Rep. 23, p. 126.
Dead leaves and sticks. This may be only a form of *M. siccus*, Schw., from which, if we may rely on Schweinitz's description, it differs in its smaller size, paler stem and not venose lamellæ.

1762. **M. subvenosus,** Pk. Reg. Rep. 23, p. 128.
Fallen leaves of poplar.

1763. **M. resinosus,** Pk. (*M. decurrens*, Pk.) Reg. Rep. 24, p. 77.
Fallen leaves and ground. The name *M. decurrens*, being preoccupied, *M. resinosus* is applied to our plant instead of it.

1764. **M. elongatipes,** Pk. (*M. longipes*, Pk.) Reg. Rep. 26, p. 66.
Fallen leaves in woods. *M. longipes* having been previously employed in connection with another species, *M. elongatipes* is substituted as the name of our plant.

1765. **M. cæspitosus,** Pk. Rep. Rep. 26, p. 65.
Decaying wood and stumps.

1766. **M. minutulus,** Pk. Reg. Rep. 27, p. 97.
Dead ash leaves.

### 648. LENTINUS, Fr.

1767. **L. lepideus,** Fr. Reg. Rep. 23, p. 126.
Decaying wood and stumps.

1768. **L. Lecomtei,** Fr. Reg. Rep. 22, p. 80: ibid. 24, p. 103.
Decaying wood and stumps.

1769. **L. vulpinus,** Fr. Reg. Rep. 25, p. 80.
Trunks of ash trees.

### 649. PANUS, Fr.

1770. **P. stypticus,** Bull. Reg. Rep. 22, p. 81.
Decaying wood.

1771. **P. operculatus,** B. and C. Reg. Rep. 27, p. 97: ibid. 30, p. 71.
Dead bark of alders, etc.

### 650. TROGIA, Fr.

1772. **T. crispa,** Pers. (*Cantharellus crispus*, Fr.) Reg. Rep. 22, p. 80: 23, p. 123.
Dead trunks, stumps and branches.

1773. **T. alni,** Pk. Reg. Rep. 31, p. 54. (*Plicatura alni*, Pk.) Reg. Rep. 24, p. 76.
Dead alders. *Merulins niveus*, Fr., (*Epicrisis*, Edition II, p. 592,) is probably the same species, but its affinity appears to me to be with species of *Trogia* rather than with those of *Merulius*.

651. LENZITES, Fr.

1774. **L. betulina,** L. Reg. Rep. 22, p. 81.
Decaying wood.

1775. **L. sepiaria,** Fr. Reg. Rep. 22, p. 81.
Decaying wood. *L. sepiaria* usually occurs on trunks of acerose trees and *L. vialis* on trunks of frondose trees, but sometimes both depart from their usual habitat.

1776. **L. vialis,** Pk. Reg. Rep. 26, p. 67.
Decaying wood.

652. SCHIZOPHYLLUM, Fr.

1777. **S. commune,** Fr. Reg. Rep. 22, p. 81.
Decaying wood and branches.

653. BOLETUS, Fr.

1778. **B. luteus,** L. Reg. Rep. 23, p. 128.
Sandy Soil.

1779. **B. flavidus,** Fr. Reg. Rep. 23, p. 129.
Woods and open places.

1780. **B. strobilaceus,** Scop. Reg. Rep. 23, p. 132.
Woods and open places.

654. POLYPORUS, Fr.

§ 1. *MESOPUS.*

1781. **P. ovinus,** Schæff. Reg. Rep. 22, p. 81.
Pine woods.

1782. **P. brumalis,** Pers. Reg. Rep. 22, p. 82.
Decaying wood.

1783. **P. perennis,** L. Reg. Rep. 22, p. 82.
Woods and open places.

1784. **P. Morgani,** Frost Ms.
Woods.

§ 2. *PLEUROPUS.*

1785. **P. picipes,** Fr. Reg Rep. 25, p. 82.
Decaying wood.

1786. **P. lucidus,** Fr. Reg. Rep. 22, p. 82.
Decaying wood of hemlock.

§ 3. *MERISMA.*

1787. **P. giganteus,** Pers. Reg. Rep. 22, p. 82.
Base of trees.

1788. **P. frondosus,** Fr. Reg. Rep. 24, p. 78.
Decaying wood.

1789. **P. sulfureus,** Bull. Reg. Rep. 22, p. 82.
Decaying wood.

§ 4. *APUS.*

1790. **P. lacteus,** Fr. Reg. Rep. 22, p. 82.
Old logs.

1791. **P. cæsius,** Schrad. Reg. Rep. 24, p. 79.
Decaying wood and shrubs.

1792. **P. gilvus,** Schw. Reg. Red. 22, p. 82.
Decaying wood.

1793. **P. fumosus,** Pers. Reg. Rep. 24, p. 79.
Decaying wood.

1794. **P. adustus,** Willd. Reg. Rep. 22, p. 82.
Decaying wood.

1795. **P. nigropurpurascens,** Schw. Reg. Rep. 30, p. 75.
Decaying wood. *Glœoporus nigropurpurascens*, Schw. (Rep. 22, p. 84) and *Glœoporus conchoides*, Mont., are other names of this species.

1796. **P. pubescens,** Fr. (*P. Sullivantii*, Mont.) Reg. Rep. 22, p. 84.
Decaying wood.

1797. **P. resinosus,** Schrad. Reg. Rep. 22, p. 83. (*P. rubiginosus*, Schrad. Reg. Rep. 24, p. 79.)
Decaying wood.

1798. **P. albellus,** Pk. Reg. Rep. 30, p 45.
Decaying wood of birch.

1799. **P. betulinus,** Bull. Reg. Rep. 24, p. 79.
Decaying wood of birch.

1800. **P. applanatus,** Pers. Reg. Rep. 22, p. 83.
Decaying wood.

1801. **P. fomentarius,** L. Reg. Rep. 22, p. 83.
Decaying wood.

1802. **P. igniarius,** L. Reg. Rep. 22, p. 83.
Decaying wood.

1803. **P. conchatus,** Pers. Reg. Rep. 27, p. 98.
Decaying ash wood.

1804. **P. salicinus,** Fr. Reg. Rep. 23, p. 52.
Decaying birch wood.

1805. **P. marginatus,** Fr. Reg. Rep. 24, p. 79.
Decaying wood.

1806. **P. cinnabarinus,** Jacq. Reg. Rep. 22, p. 83,
Decaying wood. This species and *Polyporus perennis* are referred by some mycologists to the genus *Trametes*.

1807. **P. biformis,** Klotsch. Reg. Rep. 22, p. 83. (*P. Caroliniensis*, B. and G., Reg. Rep. 22, p. 83.)
Decaying wood.

1808. **P. hirsutus,** Wulf. Reg. Rep. 22, p. 83.
Decaying wood.

1809. **P. abietinus,** Dicks. Reg. Rep. 22, p. 84.
Decaying wood of acerose trees.

1810. **P. pergamenus,** Fr. (*P. laceratus*, Berk., Reg. Rep. 22, p. 84: *P. elongatus*, Berk., Reg. Rep. 24, p. 79.)
Decaying wood.

1811. **P. versicolor,** L. Reg. Rep. 22, p. 84.
Decaying wood.

1812. **P. conchifer,** Schw. Reg. Rep. 26, p. 69.
Decaying wood.

1813. **P. virgineus,** Schw. Reg. Rep. 22, p. 84.
Decaying wood.

1814. **P. scutellatus,** Schw. Reg. Rep. 22, p. 83.
Decaying wood of alder and witch hazel.

1415. **P. vulgaris,** Fr. Reg. Rep. 27, p. 98.
Decaying wood.

1816. **P. Gordoniensis,** B. and Br. Reg. Rep. 26, p. 70.
Decaying wood.

1817. **P. vaporarius,** Pers. Reg. Rep. 28, p. 84.
Decaying wood.

1818. **P. Vaillantii,** Fr. Reg. Rep. 24, p. 79.
Decaying wood.

1819. **P. salviæ,** B. and C. Reg. Rep. 27, p. 79.
Decaying wood.

1820. **P. vesiculosus,** B. and C. Reg. Rep. 24, p. 79.
Decaying wood.

1821. **P. callosus,** Fr. Reg. Rep. 30, p. 46.
Decaying wood

1822. **P. obducena,** Pers. Reg. Rep. 30, p. 46.
Decaying wood.

1823. **P. induratus,** Pk. Reg. Rep. 31, p. 37.
Decaying wood.

1824. **P. farinellus,** Fr. Reg. Rep. 30, p. 46.
Decaying wood.

1825. **P. nitidus,** Fr. (*P. Armeniacus*, Berk.) Reg. Reg. 26, p. 70.
Decaying wood.

1826. **P. ferruginosus,** Schrad. Reg. Rep. 26, p. 70.
Decaying wood.

1827. **P. incarnatus,** A. and S. Reg. Rep. 27, p. 98.
Decaying wood.

1828. **P. rhodellus,** Fr.
Decaying Wood.

1829. **P. attenuatus,** Pk. Reg. Rep. 26, p. 70.
Decaying wood. This scarcely differs from the preceding except in its smaller pores. It is perhaps a mere variety.

655. TRAMETES, Fr.

1830. **T. mollis,** Sommf. (*Hexagona carbonaria*, B. and C.) Reg. Rep. 26. p. 70.
Decaying wood.

656. DÆDALEA, Fr.

1831. **D. unicolor,** Fr. (*D. cinerea*, Fr.) Reg. Rep. 22, p. 84.
Decaying wood.

1832. **D. confragosa,** Pers. Reg. Rep. 22, p. 84.
*Lenzites Crataegi*, Berk., (Report 22, p. 81) and *Trametes rubescens*, A. and S., are regarded as mere varieties of this fungus. See Report 30, pp. 71–74.

657. FAVOLUS, Fr.

1833. **F. canadensis,** Klotsch. (*F. Europæus*, Fr.) Reg. Rep. 23, p. 52, *Polyporus Boncheanus*, Fr. Reg. Rep. 22, p. 82 ; 26, p. 90.
Dead branches of Hickory and beech. For the identification of our specimens I am indebted to the Rev. *C. Kalchbrenner*,

the eminent mycologist of Hungary. The species is variable (see Report 26, p. 90), and the American forms have been generally referred to *Favolus Europæus* and *Polyporus Boucheanus*. Under the former name it has recently been distributed by Mr. Ellis in N. A. Fungi Exsiccati, Cent. VII, No. 604.

658. MERULIUS, Fr.

1834. **M. tremellosus,** Schrad. Reg. Rep. 22, p. 84.
Decaying Wood.

1835. **M. lacrymans,** Wulf. Reg. Rep. 25, p. 82.
Garden pot in stove.

1836. **M. bellus,** B. and C. Reg. Rep. 27, p. 99.
Decaying wood.

1837. **M. porinoides,** Fr. Reg. Rep. 27, p. 99.
Decaying wood.

659. FISTULINA, Bull.

1838. **F. hepatica,** Huds. Reg. Rep. 22, p. 84.
Stumps and base of oak and chestnut trees.

660. HYDNUM, L.

1839. **H. ferrugineum,** Fr. Reg. Rep. 24 p. 80.
Open woods.

1840. **H. coralloides,** Scop. Reg. Rep. 22, p. 85.
Decaying wood.

1841. **H. erinaceum,** Bull. Reg. Rep. 22, p. 85.
Decaying wood.

1842. **H. ochraceum,** Pers. Reg. Rep. 22, p. 85.
Decaying wood.

1843. **H. septentrionale,** Fr. (*H. cirrhatum*, Pers.) Reg. Rep. 22, p.
Decaying wood.

1844. **H. Himantia,** Schw. Reg. Rep. 22, p. 85.
Half buried sticks.

1845. **H. sulphureum,** Schw. Reg. Rep. 26, p. 71.
Decaying wood.

1846. **H. cinnabarinum,** Schw.
Under side of pine logs.

1847. **H. fuscoatrum,** Fr.
Old logs in woods.

1848. **H. mucidum,** Pers. Reg. Rep. 22, p. 85.
Old logs.

661. TREMELLODON, Pers.

1849. **T. gelatinosum,** Scop. (*Hydum gelatinosum*, Scop.) Reg. Rep. 22. p. 85
Decaying wood in woods.

662. IRPEX, Fr.

1850. **I. lacteus,** Fr. Reg. Rep. 27, p. 99.
Decaying wood.

1851. **I. Tulipiferæ,** Schw. Reg. Rep. 22, p. 85.
Decaying wood.

1852. **I. cinnamomeus,** Fr. Reg. Rep. 22, p. 86.
Decaying wood.

663. PHLEBIA, Fr.

1853. **P. zonata,** B. and C. Reg. Rep. 24, p. 80.
Poplar wood and bark.

1854. **P. radiata,** Fr. Reg. Rep. 24, p. 80.
Trunks of cultivated cherry.

664. GRANDINIA, Fr.

1855. **G. membranacea,** G. and C.
Decaying wood.

665. ODONTIA, Fr.

1856. **O. fimbriata,** Fr. Reg. Rep. 24, p. 80.
Decaying wood.

666. KNEIFFIA, Fr.

1857. **K. setigera,** Fr. Reg. Rep. 24, p. 80.
Decaying wood.

1858. **K. candidissima,** Fr. Reg. Rep. 24, p. 80.
Decaying wood.

667. CRATERELLUS, Fr.

1859. **C. cornucopioides,** Fr. Reg. Rep. 22, p. 86.
Damp places in woods.

1860. **C. lutescens,** Pers. Reg. Rep. 24, p. 81.
Damp woods and swamps.

668. THELEPHORA, Ehrh.

1861. **T. Willeyi,** Clinton. Reg. Rep. 26, p. 71.
Woods.

1862. **T. Schweinitzii,** Pk. Reg. Rep. 29, p. 67. (*T. pallida*, Schw.) Reg. Rep. 22, p. 86.
Woods and fields. *Telephora pallida*, Pers , has priority over *Telephora pallida*, Schw., hence the latter name cannot stand. I have therefore substituted another name for Schweinitzi's species.

1863. **T. sebacea,** Fr. Reg. Rep. 24, p. 81.
Incrusting grasses and low plants.

1864. **T. pedicellata,** Schw.
Twigs and branches of alders.

669. STEREUM, Fr.

1865. **S. purpureum**, Pers. Reg. Rep. 22, p. 86: ibid. 30, p. 75.
Dead trees and branches.

1866. **S. versicolor**, Fr. (*S. fasciatum*, Schw.) Reg. Rep. 22, p. 86.
Decaying wood.

1867. **S. hirsutum**, Willd. Reg. Rep. 22, p. 86.
Decaying wood.

1868. **S. spadiceum**, Fr. Reg. Rep. 22, p. 86.
Decaying wood.

1869. **S. complicatum**, Fr. Reg. Rep. 22, p. 86.
Decaying wood.

1870. **S. striatum**, Fr. Reg Rep. 22, p. 86. (*Thelephora siricea*, Schw.)
Decaying wood.

1871. **S. rugosum**, Pers. Reg. Rep. 24, p. 80.
Old logs and trees.

1872. **S. Curtisii**, Berk. Reg. Rep. 24, p. 80.
Oak trees and branches.

1873. **S. albobadium**, Schw Reg. Rep. 24, p. 80.
Decaying wood.

1874. **S. candidum**, Pk. Reg. Rep. 28, p. 52.
Bark of trees. In Syn. Fung. Car., Schweinitz described this fungus under the name *Thelephora candida.* (1061 ) In the same work he described another fungus under the name *Merisma candida.* (1069). In his Syn. Fung. North America, he placed both species in the genus Thelephora and

changed the name of the former to *Thelephora candidissima*. But inasmuch as the present classification again places the two species in different genera, the one in Thelephora, the other in Stereum, we have thought best to adopt the older name for this fungus.

1875. **S. frustulosum,** Fr. Reg. Rep. 22, p. 87.
Decaying wood.

1876. **S. acerinum,** Pers. Reg. Rep. 22, p. 87.
Bark of red cedar.

670. HYMENOCHÆTE, Lev.

1877. **H. rubiginosa,** Schrad. Reg. Rep. 22, p. 86.
This and the two following species were reported as members of the genus *Stereum*.

1878. **H. tabacina**, Sow. Reg. Rep. 22, p. 86.

1879. **H. corrugata**, Fr. Reg. Rep. 23, p. 53.

1880. **H. spreta**, Pk. Reg. Rep. 30, p. 47.

671. CORTICIUM, Fr.

1881. **C. cinereum**, Fr. Reg. Rep. 22, p. 87.
Dead branches.

1882. **C. auberianum**, Mont. Reg. Rep. 24, p. 81.
Dead bark.

1883. **C. lilacino-fuscum**, B. and C. Reg. Rep. 27, p. 99.
Dead bark.

1884. **C. Sambuci**, Fr. Reg. Rep. 30, p. 48.
Dead stems of elder.

1885. **C. polyporoideum**, B. and C.
Old logs.

1886. **C. læve**, Pers.
Old logs.

1887. **C. incarnatum**, Fr. Reg. Rep. 24, p. 80.
Decaying wood and branches.

1888. **C. scutellare**, B. and C. (*C. liquidamberis*, B. and C.) Reg. Rep. 24, p. 81.
Dead bark and branches.

1889. **C. sulfureum**, Fr. Reg. Rep. 29, p. 46.
Decaying wood.

1890. **C. cæruleum**, Schrad. Reg. Rep. 30, p. 48.
Decaying wood.

1891. **C. bicolor**, Pk. Reg. Rep. 26, p. 72.
Decaying wood.

1892. **C. Martianum**, B. and C.
Decaying wood.

1893. **C. salicinum**, Fr. Reg. Rep. 24, p. 81. (*Exidia cinnabarina*, B. and C.) Reg. Rep. 22, p. 88.
Dead willows.

1894. **C. amorphum**, Pers. (*Nodularia balsamicola*, Pk.) Reg. Rep. 24, p. 96.
Dead bark of balsam fir.

1895. **C. Oakesii**, B. and C. Reg. Rep. 22, p. 87.
Bark of oak, ash, etc.

672. CYPHELLA, Fr.

1896. **C. fulva**, B. and R. Reg. Rep. 24, p. 83.
Dead alders.

673. SOLENIA, Pers.

1897. **S. candida**, Pers. Reg. Rep. 22, p. 95.
Decaying wood.

1898. **S. fasciculata**, Pers.
Decaying wood.

1899. **S. ochracea**, Hoffm. Reg. Rep 25, p. 83.
Decaying wood.

1900. **S. anomala**, Pers. (*Peziza anomala*, Pers.) Reg. Rep. 23, p. 62.
Decaying wood and bark.

674. CLAVARIA, L.

1901. **C. Kunzei**, Fr. Reg. Rep. 24, p. 81.
Woods.

1902. **C. tetragona**, Schw. Reg. Rep. 24, p. 82.
Woods.

1903. **C. pyxidata**, Pers.
Woods.

1904. **C. aurea**, Schæff. Reg. Rep. 22, p. 87.
Woods.

1905. **C. spinulosa**, Pers. Reg. Rep. 22, p. 82.
Woods.

1906. **C. apiculata**, Fr. Reg. Rep. 24, p. 82.
Decaying wood.

1907. **C. fusiformis**, Sow. Reg. Rep. 23, p. 53.
Damp woods and Swamps.

1908. **C. inæqualis**, Mull. Reg. Rep. 22, p. 87.
Damp woods and Swamps.

1909. **C. pistillaris**, L. Reg. Rep. 23, p. 53.
Woods.

1910. **C. Ligula**, Schæff. Reg. Rep. 24, p. 82.
Woods.

1911. **C. fistulosa**, Fr. Reg. Rep. 26, p. 72.
Woods.

1912. **C. pulchra**, Pk. Reg. Rep. 28, p. 53.
Woods and damp places.

1913. **C. mucida**, Pers. Reg. Rep. 24, p. 82.
Damp decaying wood.

675. CALOCERA, Fr.

1914. **C. viscosa**, Pers. Reg. Rep. 24, p. 82.
Decaying wood.

1915. **C. cornea**, Batsch. Reg. Rep. 24, p. 82.
Decaying wood.

1916. **C. palmata**, Schum. Reg. Rep. 24, p. 82.
Decaying wood.

676. TYPHULA, Pers.

1917. **T. muscicola**, Pers. (*Pistillaria muscicola*, Pers.) Reg. Rep. 22, p. 87.
Mosses, especially *Climacium Americanum*.

677. PHYSALACRIA, Pk.

1918. **P. inflata**, Schw. (*Mitrula inflata*, Schw.) Reg. Rep. 27, p. 47.
Decaying wood and bark.

678. TREMELLA, Dill.

1919. **T. aurantia**, Schw. Reg. Rep. 22, p. 88.
Dead spruce and pine.

1920. **T. mesenterica**, Retz. Reg. Rep. 22, p. 88.
Decaying wood.

1921. **T. albida**, Huds. Reg. Rep. 25, p. 83.
Decaying wood.

1922. **T. foliacea,** Pers. Reg. Rep. 24, p. 80.
Decaying wood.

1923. **T. frondosa,** Fr. Reg. Rep. 26, p. 72.
Decaying wood.

1924. **T. vesicaria,** Bull. Reg. Rep. 28, p. 53.
Damp shaded ground.

679. EXIDIA, Fr.

1925. **E. glandulosa,** Bull. Reg. Rep. 22, p. 88.
Dead trunks and branches.

1926. **E. repanda,** Fr.
Dead trunks and branches.

680. NÆMATELIA, Fr.

1927. **N. nucleata,** Schw. Reg. Rep. 24, p. 83.
Dead trunks and branches.

681. GUEPINIA, Fr.

1928. **G. spathularia,** Fr. Reg. Rep. 24, p. 80.
Decaying wood.

682. DITIOLA, Fr.

1929. **D. radicata,** Fr. Reg. Rep. 27, p. 101.
Decaying pine wood.

683. DACRYMYCES, Nees.

1930. **D. stillatus,** Nees. Reg. Rep. 22, p. 88.
Decaying wood.

1931. **D. deliquescens,** Duby. (*D. tortus* Fr.) Reg. Rep. 22, p. 88.
Decaying wood.

1932. **D. fragiformis,** Nees. Reg. Rep. 27, p. 101.
Decaying wood.

1933. **D. minor,** Pk. Reg. Rep. 30, p. 49.
Decaying wood.

684. EXOBASIDIUM, Wor.

1934. **E. Cassandræ,** Pk. Reg. Rep. 29, p. 46.
Living leaves of *Cassandra calyculata.*

## Sub-order 2. GASTEROMYCETES.

### 685. PHALLUS, L.

1935. **P. Ravenelii,** B. & C.
Woods.

### 686. CLATHRUS, Mich.

1936. **C. cancellatus,** L.
Ground.

### 687. TULOSTOMA, Pers.

1937. **T. mammosum,** Fr.
Sandy soil.

### 688. GEASTER, Mich.

1938. **G. saccatus,** Fr. Reg. Rep. 23, p. 53.
Woods.

### 689. BOVISTA, Dill.

1939. **B. plumbea,** Pers. Reg. Rep. 22, p. 88.
Grassy fields.

### 690. LYCOPERDON, Pers.

1940. **L. giganteum,** Batsch.
Fields and gardens.

1941. **L. cyathiforme,** Bosc. (*L. giganteum*, Batsch.) Reg. Rep. 23, p, 53; (*L. albopurpureus*, Frost Cat.)
Fields and pastures.

1942. **L. pedicellatum,** Pk. Reg. Rep. 26, p. 73.
Decaying wood and ground in woods.

1943. **L. Wrightii,** B. & C. Reg. Rep. 22, p. 88.
Fields and grassy places.

1944. **L. gemmatum,** Batsch. Reg. Rep. 22, p. 88.
Ground and old stumps.

1945. **L. pyriforme,** Schæff. Reg. Rep. 22, p. 88.
Ground and decaying wood.

1946. **L. pusillum,** Fr.
Fields and pastures.

691. SCLERODERMA, Pers.

1947. **S. vulgare,** Fr. Reg. Rep. 24, p. 89.
Ground and decaying wood.

1948. **S. bovista,** Fr.
Ground.

692. PHYSARUM, Pers.

1949. **P. cinereum,** Batsch. (*Didymium cinereum*, Fr.) Reg. Rep. 23, p. 53.
Moss, grass, bark, etc.

1950. **P. contextum,** Pers. (*Diderma flavidum*, Pk.) Reg. Rep. 28, p. 54.
Decaying wood.

1951. **P. sinuosum,** Bull. (*Angioridium sinuosum*, Grev.) Reg. Rep. 26, p. 75.
Moss, sticks, etc.

693. TILMADOCHE, Fr.

1952. **T. nutans,** Pers. (*Physarum nutans*, Pers.) Reg. Rep. 22, p. 89.
Decaying wood.

694. CRATERIUM, Trent.

1953. **C. leucocephalum,** Pers. Reg. Rep. 26, p. 75.
Moss, sticks, etc.

695. BADHAMIA, Berk.

1954. **B. rubiginosa,** Chev. (*Crotereum obovatum*, Pk.) Reg. Rep. 26, p. 75.
Decaying wood and leaves.

696. DIDYMIUM, Schrad.

1955. **D. eximium,** Pk. Reg. Rep. 31, p. 41.
Ash wood.

697. FULIGO, Hall.

1956. **F. varians,** Sommf. (*Æthalium septicum*, Fr.) Reg. Rep. 22, p. 89.
*Æ. vaporarium*, Fr.
Decaying wood. etc. Tan bark in stoves.

698. CHONDRIODERMA. Rost.

1957. **C. testaceum,** Fr. (*Ciderma Mariæ-Wilsoni*, Clinton.) Reg. Rep. 26, p. 74.
Mosses, stems and Leaves.

1958. **C. spumarioides,** Fr. (*Didermia farinaceum*, Pk.) Reg. Rep. 26, p. 74.
Leaves and bark.

699. LEOCARPUS, Lk.

1959. **L. fragilis,** Dicks. (*L. vermicosus*, Pers.) Reg. Rep. 23, p. 53.
Sticks, leaves and wood.

700. DIACHÆA, Fr.

1960. **D. leucopoda,** Bull. (*D. elegans*, Fr.) Reg. Rep. 23, p. 54.
Leaves, moss, etc , living or dead.

701. STEMONITIS, Gled.

1961. **S. fusca,** Roth. Reg. Rep. 24, p. 84.
Decaying wood.

1962. **S. ferruginea,** Ehrh. Reg. Rep. 22, p. 89.
Decaying wood.

702. COMATRICHA, Preuss.

1963. **C. typhina,** Roth. (*Stemonitis typhoides*, DC.) Reg. Rep. 25, p. 83.
Decaying wood.

703. LAMPRODERMA, Rost.

1964. **L. physaroides,** A. & S. Reg. Rep. 29, p. 47.
Decaying wood.

1965. **L. arcyrioides** var. **iridea,** Cke.
Dead branchlets of *Vitis*.

704. TUBULINA, Pers.

1966. **T. cylindrica,** Bull. (*Licea cylindrica*, Bull.) Reg. Rep. 26, p. 76.
Decaying wood.

705. TRICHIA, Hall.

1967. **T. chrysosperma,** Bull. Reg. Rep. 24, p. 84.
Decaying wood.

1968. **T. varia,** Pers. Reg. Rep. 24, p. 84.
Decaying wood.

1969. **T. fallax,** Pers. Reg. Rep. 30, p. 50.
Decaying wood.

706. ARCYRIA, Hill.

1970. **A. punicea,** Pers. Reg. Rep. 24, p. 84.
Decaying wood.

1971. **A. incarnata,** Pers. Reg. Rep. 25, p. 84.
Decaying wood.

1972. **A. cinerea,** Bull. Reg. Rep. 22, p. 89. (*A. digitata,* Schw.) Reg. Rep. 23, p. 53.
Decaying wood.

707. HEMIARCYRIA, Rost.

1973. **H. clavata,** Pers. (*Trichia clavata,* Pers.) Reg. Rep. 22, p. 89.
Decaying wood.

1974. **H. rubiformis,** Pers. (*Trichia rubiformis,* Pers.) Reg. Rep. 22, p. 89. (*T. pyriformis,* Hoff.) Reg. Rep. 25, p. 84.
Decaying wood.

1975. **H. serpula,** Scop. (*Trichia serpula,* Pers.) Reg. Rep. 24, p. 84.
Decaying wood.

708. PERICHÆNA, Fr.

1976. **P. irregularis,** B. and C. Reg. Rep. 30, p. 50.
Decaying wood and bark.

1977. **P. cæspitosa,** Pk. (*Physarum cæspitosum,* Pk.) Reg. Rep. 26, p. 75 : ibid. 28, p. 85.
Decaying wood.

709. LYCOGALA, Mich.

1978. **L. epidendrum,** Bux. Reg. Rep. 22, p. 89.
Decaying wood.

710. PTYCHOGASTER, Cd.

1979. **P. albus,** Cd. Reg. Rep. 22, p. 90.
Decaying wood.

711. CYATHUS, Pers.

1980. **C. striatus,** Hoffm. Reg Rep. 23, p. 54.
Decaying wood and sticks.

1981. **C. vernicosus,** DC. (*C. campanulatus,* Fr.) Reg. Rep. 22. p. 90.
Ground, manured places, etc.

712. CRUCIBULUM, Tul.

1982. **C. vulgare,** Tul. Reg. Rep. 22, p. 90.
Decaying wood.

713. SPHAEROBOLUS, Tode.

1983. **S. stellatus,** Tode.
Spent hops and decaying wood.

SUB-ORDER 3. CONIOMYCETES.

714. SACIDIUM, Nees.

1984. **S. Pini,** Fr. Reg. Rep. 31, p. 43.
Dead balsam-fir leaves.

715. PHOMA, Fr.

1985. **P. nebulosum,** Berk. Reg. Rep. 29, p. 47.
Dead stems of nettle.

1986. **P. Mariæ,** Clinton. Reg. Rep. 28, p. 55.
Living branches of *Lonicera Tatarica.*

1987. **P. lineolatum,** Desm. (*Phoma strobilina*, P. and C.) Reg. Rep. 30, p. 51.
Pine cones.

1988. **P. stercoraria,** P. and C. Reg. Rep. 30, p. 51.
Dung of geese.

1989. **P. longissimum,** Pers. Reg. Rep. 24, p. 99.
Dead stems of *Chenopodium album.*

1990. **P. Verbascicola,** Schw. (*Sphæria verbascicola.*) Reg. Rep. 22, p. 100.
Dead stems of *Verbascum Thapsus.*

1991. **P. hysteriellum,** P. and C.
Dead stems of herbs.

716. PECKIA, Clinton.

1992. **P. Sarraceniæ,** P. and C. Reg. Rep 29, p. 47.
Dead stems of *Sarracenia purpurea.*

1993. **P. Clintonii,** Pk. Reg. Rep. 29, p. 47.
Dead leaves of *Smilacina trifolia.*

717. CRYPTOSPORIUM, Kunze.

1994. **C. Noveboracense,** B. and C. Reg. Rep. 29, p. 47.
Bark of *Abies balsamea.*

1995. **C. Scirpi,** Pk. Reg. Rep. 25, p. 84.
Leaves of *Scirpus.*

718. GELATINOSPORIUM, Pk.

1996. **G. betulinum,** Pk. Reg. Rep. 25, p. 84.
Dead branches of *Betula lenta.* Probably *Sphæronema seriatum,* B. and C., is the same species.

1997. **G. abietinum,** Pk. Reg. Rep. 25, p. 84.
Dead branches of *Abies Canadensis.*

719. SPHÆRONEMA, Tode.

1998. **S. subtile,** Fr. Reg. Rep. 24, p. 85.
Decaying wood.

1999. **S. Robiniæ,** B. and C. Reg. Rep. 30, p. 51.
Dead twigs of *Tilia* and *Robinia.*

2000. **S. Fraxini,** Pk. Reg. Rep. 29, p. 71. (*S. spina,* B. and C. Reg. Rep. 23, p. 54.)
Dead branches of ash.

2001. **S. Persicæ,** Fr. (*Sphorocybe Persicæ,* Fr.) Reg. Rep. 23, p. 61.
Dead bark of cherry and peach trees.

720. SPHÆROPSIS, Lev.

2002. **S. quercina,** Pk. Reg. Rep. 25, p. 86.
Dead branches of oak.

2003. **S. Sumachi,** Schw. (*S. pulchella,* B. and C. Reg. Rep. 24, p. 86. *Sphæria Sumachi,* Schw.)
Dead branches of *Rhus glabra.*

2004. **S. Macluræ,** Cke.
Dead branches of Osage orange.

2005. **S. Menispermi,** Pk. Reg. Rep. 24, p. 86.
Dead stems of *Menispermum Canadense.*

2006. **S. Clintonii,** Pk. Reg. Rep. 28, p. 55.
Decorticated maple.

2007. **S. Wilsoni,** Clinton. (*S. punctum,* C. and E.) Reg. Rep. 28, p. 55.
Living stems of *Lonicera flava.*

2008. **S. Squieriæ,** Clinton. Reg. Rep. 28, p. 55.
Dead stems of *Aristolachia.*

2009. **S. Syringæ,** P. and C. Reg. Rep. 30, p. 52.
Dead twigs of *Syringa vulgaris.*

2010. **S. Pennsylvanica,** B. and C. Reg. Rep. 30, p. 51.
Dead twigs of ash.

2011. **S. Malorum,** Berk. Reg. Rep. 25, p. 85.
Decaying apples.

2012. **S. pulchrispora,** P. and C.
Dead stems of *Polygonum.*

721. DIPLODIA, Fr.

2013. **D. vulgaris,** Lev. Reg. Rep. 26, p. 76.
Decaying wood.

2014. **D. Herbarum,** Lev. Reg. Rep. 28, p. 56.
Dead stems of herbs.

2015. **D. Viticola,** Desm. Reg. Rep. 22, p. 90.
Dead stems of *Vitis.*

2016. **D. thujina,** P. and C. Reg. Rep. 30, p. 52.
Wood of *Thuja occidentalis.*

722. HENDERSONIA, Berk.

2017. **H. Mariæ,** Clinton. Reg. Rep. 28, p. 57.
Living stems of *Lonicera flava.*

2018. **H. Peckii,** Clinton. Reg. Rep. 28, p. 56.
Living stems of *Lonicera flava.*

2019. **H. Sarmentorum,** West. Reg. Rep. 28, p. 56.
Dead grape vines.

2020. **H. Desmazierii,** Mont. (*H. Platani,* Pk.) Reg. Rep. 25, p. 86.
Bark of *Platanus occidentalis.*

2021. **H. Coluteæ,** P. and C.
Twigs of *Colutea arborescens.*

723. VERMICULARIA, Tode.

2022. **V. dematium,** Fr. Reg. Rep. 24, p. 86.
Dead stems and leaves.

2023. **V. coptina,** Pk. Reg. Rep. 28, p. 58.
Dead or dying leaves of *Coptis trifolia.*

2024. **V. concentrica,** P. and C. Reg. Rep. 29, p. 47.
Languishing leaves of *Trillium.*

2025. **V. albomaculata,** Schw.
Leaves of *Smilax herbacea.*

2026. **V. Petiolorum,** Schw
Dead petioles.

2027. **V. trichella,** Grev. Reg. Rep. 31, p. 43.
Ivy leaves.

2028. **V. compacta,** C. and E.
Dead grape vine.

2029. **V. Balsamitæ,** Schw.
Dead stems of *Impatiens.*

2030. **V. Polygonati,** Schw.
Dead stems of *Polygonatum.*

724. DISCOSIA, Lib.

2031. **D. artocreas,** Fr. Reg. Rep. 24, p. 86.
Dead leaves.

2032. **D. rugulosa,** B. and C. Reg. Rep. 29, p. 48.
Dead leaves of *Carya alba.*

725. SEPTORIA, Fr.

2033. **S. Nabali,** B. and C. Reg. Rep. 24, p. 87.
Leaves of *Nabalus.*

2034. **S. Polygonorum,** Desm.
Leaves of *Polygonum orientale.*

2035. **S. Rhoidis,** B. and C. Reg. Rep. 28, p. 57.
Leaves of *Rhus typhina.*

2036. **S. Rubi,** West. (*S. Rubi*, B. and C.) Reg. Rep. 23, p. 54.
Leaves of *Rubus strigosus*, *villosus*, etc.

2037. **S. Liriodendri,** B and C. Reg. Rep. 23, p. 54.
Leaves of *Liriodendron Tulipifera.* I have seen no description of this species. The next following species appears also to have a mere catalogue or manuscript name.

2038. **S. Verbascicola,** B. and C. Reg. Rep. 28, p. 57.
Leaves of *Verbascum Blattaria.*

2039. **S. Lobeliæ,** Pk. Reg. Rep. 24, p. 87.
Leaves of *Lobelia.*

2040. **S. Verbenæ,** D. and R. Reg. Rep. 27, p. 101.
Leaves of *Verbena hastata.*

2041. **S. viride-tingens,** Curt. Reg. Rep. 23, p. 55.
Leaves of *Allium tricoccum.*

2042. **S. mirabilis,** Pk. Reg. Rep. 25, p. 87.
Fronds of *Onoclea sensibilis.*

2043. **S. Wilsoni,** Clinton. Reg. Rep. 28, p. 57.
Leaves of *Chelone glabra.*

2044. **S. Scrophulariæ,** Pk. Reg. Rep. 28, p. 57.
Leaves of *Scrophularia nodosa.*

2045. **S. sambucini,** Pk. Reg. Rep. 28, p. 57.
Leaves of *Sambucus Canadensis.*

2046. **S. Coptidis,** B. and C.
Leaves of *Coptis trifolia.*

2047. **S. Polygalæ,** P. and C. Reg. Rep. 29, p. 48.
Leaves of *Polygala paucifolia.*

2048. **S. emaculata,** P. and C. Reg. Rep. 29, p. 48.
Leaves of *Lathyrus palustris.*

2049. **S. Erigerontis,** Pk. Reg. Rep. 24, p. 87.
Leaves of *Erigeron strigosum* and *annuum.*

2050. **S. Violæ,** West. Reg. Rep. 24, p. 87.
Leaves of *Viola cucullata.*

2051. **S. Dianthi,** Desm.
Leaves of *Dianthus barbatus.*

2052. **S. phlyctænoides,** B. and C. Reg. Rep. 24, p. 87.
Dead stems of herbs.

2053. **S. salicina,** Pk. Reg, Rep. 25, p. 87.
Leaves of *Populus balsamifera.*

2054. **S. Waldsteiniæ,** P. & C. Reg. Rep. 31, p. 43.
Leaves of *Waldsteinia fragarioides.*

2055. **S. Hippocastani,** B. and Br. Reg. Rep. 24, p. 87.
Leaves of horse-chestnut.

2056. **S. Toxicodendri,** Curt.
Leaves of *Rhus Toxicodendron.* This species does not appear to have been described.

2057. **S. Kalmicola,** Schw. (*Sphæria Kalmicola,* Schw.) Reg. Rep. 23, p. 64.
Leaves of *Kalmia latifolia.*

2058. **S. Œnotheræ,** West.
Leaves of *Œnothera biennis,*

726. PHYLLOSTICTA, Pers.

2059. **P. cruenta,** Fr. (*Septoria cruenta,* Kze.) Reg. Rep. 22, p. 101.
Leaves of *Polygonatum* and *Smilacina.*

2060. **P. ochroleuca,** B. and C. (*Septoria ochroleuca,* B. and C.) Reg. Rep. 25, p. 88.
Leaves of chestnut.

727. EXCIPULA, Fr.

2061. **E. Equiseti,** Pk. Reg. Rep. 26, p. 77.
Dead *Equisetum hyemale.*

728. DINEMASPORIUM. Lev.

2062. **D. Herbarum,** Cke. Reg. Rep. 25, p. 88.
Dead stems of herbs.

2063. **D. acerinum,** Pk. Reg. Rep. 26, p. 77.
Maple wood.

729. ASTEROMA, DC.

2064. **A. Rosæ,** DC. Reg. Rep. 28, p. 58.
Leaves of *Rosa rubiginosa.*

730. MELANCONIUM, Lk.

2065. **M. disseminatum,** Fr. Reg. Reg. 28, p. 59.
Decaying wood.

2066. **M. minutissimum,** Schw. Reg. Rep. 28, p. 59.
Bark of *Platanus occidentalis.*

2067. **M. oblongum,** Berk. Reg. Rep. 28, p. 59.
Bark of *Juglans cinerea.*

2068. **M. intermedium,** P. and C. Reg. Rep. 30, p. 53.
Bark of *Carya alba.*

2069. **M. Americanum,** P. and C. Reg. Rep. 31, p. 43.
Dead leaves of *Agave Americana.*

731. STILBOSPORA, Pers.

2070. **S. ovata,** Pers. Reg. Rep. 22, p. 90.
Dead branches.

2071. **S. Staphyleæ,** Schw. Reg. Rep. 25, p. 88.
Dead branches of *Staphylea trifolia.*

732. EXOSPORIUM, Lk.

2072. **E. Tiliæ,** Lk. (*Coryneum clavæsporium,* Pk.) Reg. Rep. 24, p. 87.
Dead branches of *Tilia Americana.*

733. CORYNEUM, Kze.

2073. **C. disciforme,** Kze. Reg. Rep. 28, p. 59.
Dead branches.

2074. **C. triseptatum,** Pk. Reg. Rep. 27, p. 102.
Dead leaves of *Rhododendron maximum.*

734. CHEIROSPORA, Fr.

2075. **C. botryospora,** Fr. Reg. Rep. 25, p. 88.
Dead branches.

735. MYXOSPORIUM, Lk.

2076. **M. nitidum,** B. and C. Reg. Rep. 22, p. 90.
Dead branches of *Cornus.*

736. PESTALOZZIA, DeNot.

2077. **P. Guepini,** Desm.
Leaves of *Camellia Japonica.*

2078. **P. Mariæ,** Clinton. Reg. Rep. 27, p. 102.
Leaves of *Rhododendron maximum.*

2079. **P. monochæta,** Desm. (*P. Peckii,* Clinton.) Reg. Rep. 28, p. 59.
Dead and persistent oak leaves.

737. TORULA. Cd.

2080. **T. alnea,** Pk. Reg. Rep. 25, p. 89.
Dead trunks of *Alnus incana.*

738. TRIMMATOSTROMA, Cd.

2081. **T. Americanum,** Thum. (*Coniothecium toruloideum,* B. and C.) Reg. Rep. 23, p. 55.
Dead willow branches.

739. SEPTONEMA, Cd.

2082. **S. spilomeum,** Berk. Reg. Rep. 22, p. 91.
Old rails and decaying wood.

2083. **S. dichænoides,** P. & C. Reg. Rep. 30, p. 53.
Bark of alder.

740. BACTRIDIUM, Kze.

2084. **B. flavum,** Kze. Reg. Rep. 26, p. 77.
Wet decaying wood.

741. SPORIDESMIUM, Lk.

2085. **S. concinnum,** B. & C. Reg. Rep. 27, p. 103; ibid, 29, p. 50.
Decaying wood.

2086. **S. moriforme,** Pk. Reg. Rep. 25, p. 89.
Decaying wood of apple trees.

2087. **S. lepraria,** B. & Br. Reg. Rep. 28, p. 60.
Decaying wood.

### 742. PHRAGMIDIUM, Lk.

2088. **P. obtusum,** K. & S. (*Aregma obtusatum*, Fr.) Reg. Rep. 24, p. 90.
Living leaves of *Potentilla Canadensis.*

2089. **P. Rosarum,** Rabh. (*Aregma mucronatum*, Fr.) Reg. Rep. 23, p. 55.
Living leaves of Roses.

2090. **P. gracile,** Grev. Reg. Rep. 29, p. 50.
Living leaves of *Rubus odoratus.*

### 743. TRIPHYRAGMIUM, Lk.

2091. **T. clavellosum,** Berk. Reg. Rep. 23, p. 55.
Living leaves of *Aralia nudicaulis.*

### 744. PUCCINIA, Pers.

2092. **P. solida,** Schw. Reg. Rep. 22, p. 91 : ibid. 25, p. 118.
Living leaves of *Anemone cylindrica.*

2093. **P. fusca,** Schrot. (*P. Anemones*, Pers.) Reg. Rep. 23, p. 56 : ibid. 25, p. 116.
Living leaves of *Anemone nemorosa.*

2094. **P. Calthæ,** Lk. Reg. Rep. 29, p. 50.
Living leaves of *Caltha palustris.*

2095. **P. aculeata,** Schw. Reg. Rep. 22, p. 91 : ibid. 25, p. 113.
Living leaves of *Podophyllum peltatum.*

2096. **P. Violarum,** Lk. Reg. Rep. 23, p. 56 : ibid. 25, p. 112.
Living leaves of violets.

2097. **P. Lychnidearum,** Lk. Reg. Rep. 25, p. 110.
Living leaves of *Dianthus barbatus.*

2098. **P. Mariæ-Wilsoni,** Clinton. Reg. Rep. 25, p. 114.
Living leaves of *Claytonia Caroliniana* and *C. Virginica.*

2099. **P. Noli-tangeris,** Cd. Reg. Rep. 24, p. 90 : ibid. 25, p. 114.
Living leaves of *Impatiens* and *Dalibarda.*

2100. **P. Pyrolæ,** Cke. Reg. Rep. 24, p. 90 : ibid. 25, p. 119.
Living leaves of *Polygala paucifolia.*

2101. **P. Prunorum,** Lk. Reg. Rep. 25, p. 116.
Living leaves of *Prunus serotina.*

2102. **P. Waldsteiniæ,** Curt. Reg. Rep. 22, p. 91 : ibid 25, p. 120.
Living leaves of *Waldsteinia fragarioides.*

2103. **P. spreta,** Pk. Reg. Rep. 29, p. 67. (*P. Tiarella,* B. and C. Reg. Rep.25, p. 115.)
Living leaves of *Tiarella cordifolia* and *Mitella nuda.*

2104. **P. Circææ,** Pers. Reg. Rep. 23, p. 56 : ibid. 25, p. 118.
Living leaves of *Circæa Lutetiana.*

2105. **P. obtegens,** Tul. (*P. Compositarum,* Sch.) Reg. Rep. 23, p. 56 : ibid. 25, p. 113. (*Trichobasis suaveolens,* Pers.) Reg. Rep. 24, p. 89.
Living leaves of *Cirsium arvense.*

2106. **P. Cirsii,** Lasch.
Living leaves of *Cirsium lanceolatum.*

2107. **P. Galiorum,** Lk. Reg. Rep. 24, p. 90 : ibid. 25, p. 116.
Living leaves of *Galium asprellum* and *G. triflorum.*

2108. **P. Umbelliferarum,** DC. Reg. Rep. 23, p. 56 : ibid. 25, p. 112.
Living leaves of *Pimpinella integerrima.*

2109. **P. Cryptotæniæ,** Pk. Reg. Rep. 23, p. 56 : ibid. 25, p. 114
Living leaves of *Cryptotænia Canadensis.*

2110. **P. Osmorrhizæ,** C. and P. Reg. Rep. 29, p. 73. (*P. Myrrhis,* Schw. Reg. Rep. 25, p. 112, *Uredo chærophylli,* Schw. 23, p. 57.)
Living leaves of *Osmorrhiza brevistylis, etc.*

2111. **P. porphyrogenita,** Curt. Reg. Rep. 29, p. 73. (*P. acuminata,* Pk. Reg. Rep. 23, p. 57 : ibid. 75, p. 119.)
Living leaves of *Cornus Canadensis.*

2112. **P. Asteris,** Schw. Reg. Rep. 23, p. 56 : ibid. 25, p. 118.
Living leaves of asters.

2113. **P. Xanthii.** Schw. Reg. Rep. 23, p. 56 : ibid. 25, p. 117.
Living leaves of *Xanthium strumarium.*

2114. **P. Helianthi,** Schw. Reg. Rep. 23, p. 56: ibid. 25, p. 116. (*P. Helianthorum,* Schw.)
Living leaves of *Helianthus.*

2115. **P. variabilis,** Grev. Reg. Rep. 25, p. 112.
Living leaves of *Taraxacum Dens-leonis.*

2116. **P. investita,** Schw. Reg. Rep. 22, p. 91 : ibid. 25, p. 117.
Living leaves of *Gnaphalium decurrens.*

2117. **P. orbicula,** P. and C. Reg. Rep. 30, p. 53.
Living leaves of *Nabalus.*

2118. **P. Menthæ,** Pers. Reg. Rep. 25, p. 115. (*Trichobasis Labiatarum*, Lev. Reg. Rep. 24, p. 89.)
Living leaves of mints.

2119. **P. Gentianæ,** Strauss. Reg. Rep. 29, p. 50.
Living leaves of *Gentiana Andrewsii.*

2120. **P. Hydrophylli,** P. and C. Reg. Rep. 30, p. 54.
Living leaves of *Hydrophyllum Virginicum.*

2121. **P. Veratri,** Niessl. Reg. Rep. 27, p. 103.
Living leaves of *Veratrum viride.*

2122. **P. Convolvuli,** Cast. Reg. Rep. 24, p. 90 : ibid. 25, p. 120.
Living leaves of *Convolvulus Sepium.*

2123. **P. Clintonii,** Pk. Reg. Rep. 28, p. 61.
Living leaves of *Pedicularis Canadensis.*

2124. **P. Dayii,** Clinton. Reg. Rep. 28, p. 60.
Living leaves of *Lysimachia ciliata.*

2125. **P. Physostegiæ,** P. & C. Reg. Rep. 29, p. 50.
Living leaves of *Physostegia Virginiana.*

2126. **P. Amphibii,** Fekl. Reg. Rep. 30, p. 75. (*P. Polygonorum*, Lk. Reg. Rep. 24, p. 90.)
Living leaves of *Polygonum amphibium.*

2127. **P. Maydis,** Patsch. (*P. Sorghi*, Schw.) Reg. Rep. 28, p. 61.
Living leaves of *Zea Mays.*

2128. **P. angustata,** Pk. Reg. Rep. 25, p. 123.
Living leaves of *Scirpus Eriophorum.*

2129. **P. coronata,** Cd. Reg. Rep. 23, p. 56: ibid. 25, p. 121.
Living leaves of *Avena sativa.*

2130. **P. arundinacea,** Hedw. Reg. Rep. 25, p. 122. (*P. arundinaria*, Schw.)
Living leaves of *Phragmites communis.*

2131. **P. obtecta,** Pk. Reg. Rep. 25, p. 121.
Living leaves of *Scirpus validus.*

2132. **P. Ellisii,** Thum. (*P. Andropogi*, Schw.)
Living leaves of *Andropogon scoparius.*

2133. **P. caricina,** Dee. (*P. caricis*, DC.) Reg. Rep. 25, p. 122.
Living leaves of Carices.

2134. **P. striola,** Lk. Reg. Rep. 25, p. 122.
Living leaves of sedges.

2135. **P. graminis,** Pers. Reg. Rep. 25, p. 121.
Living leaves of grasses.

745. GYMNOSPORANGIUM, Lk.

2136. **G. fuscum**, var. **globosum**, Far. (*Podisoma fuscum*, Duby.) Reg. Rep. 25, p. 89.
Galls of *Juniperus Virginiana*.

746. USTILAGO, Lk.

2137. **U. Carbo**, Tul. Reg. Rep. 29, p. 75. (*U. segetum*, Dittm. Reg. Rep. 22, p. 92.)
Spikes of wheat.

2138. **U. Maydis**, Cd. Reg. Rep. 22, p. 92. (*U. Zeæ*, Schw.)
Flowers and fruit of *Zea Mays*.

2139. **U. utriculosa**, Tul. Reg. Rep. 22, p. 93: ibid. 27, p. 111.
Spikes of *Polygonum Pennsylvanicum*.

2140. **U. Erythronii**, Clinton. Reg. Rep. 27, p. 115.
Living leaves of *Erythronium Americanum*.

747. UROCYSTIS, Rabh.

2141. **U. pompholygodes**, Schl. Reg. Rep. 30, p. 77. (*Polycystis Ranunculacearum*, Desm. Reg. Rep. 23, p. 58.)
Living leaves of *Trollius*, *Hepatica* and *Anemone*.

748. UROMYCES, Lev.

2142. **U. Lespedezæ**, Schw. (*Puccinia Lespedezæ violaceæ*, Schw.) Reg. Rep. 22, p. 92.
Living leaves of *Lespedeza*.

2143. **U. Junci**, Schw. (*Puccinia Junci*, Schw.) Reg. Rep. 22, p. 91.
Living *Juncus effusus* and *J. tenuis*.

2144. **U. Peltandraæ**, Howe. Reg. Rep. 29, p. 67.
Living leaves of *Peltandra* and *Arisæma*.

2145. **U. pyriformis**, Cke. Reg. Rep. 26, p. 77 : ibid. 29, p. 69.
Living leaves of *Acorus Calamus*.

2146. **U. Sparganii**, C. and P. Reg. Rep. 26, p. 77.
Living leaves of *Sparganium*.

2147. **U. Euphorbiæ**, C. and P. Reg. Rep. 25, p. 90.
Living leaves of *Euphorbia maculata* and *E. hypericifolia*.

2148. **U. triquetra**, Cke. Reg. Rep. 25, p. 90. (*Puccinia Hyperici*, Schw. Reg. Rep. 22, p. 92.)
Living leaves of *Hypericum mutilum*.

2149. **U. solida,** B. and C. Reg. Rep. 24, p. 90.
Living leaves of *Desmodium.*

2150. **U. Polygoni,** Fckl. Reg. Rep. 24, p. 89.
Living stems of *Polygonum.*

2151. **U. Howei,** Pk. Reg. Rep. 30, p. 75. (*Trichobasis Howei*, Pk. Reg. Rep. 23, p. 58 ; *U. Asclepiadis*, Cke.)
Living leaves of *Asclepias Cornuti.*

2152. **U. Trifolii,** Fckl. Reg. Rep. 31, p. 43.
Living leaves of *Medicago lupulina.*

2153. **U. polymorphus,** P. and C. Reg. Rep. 31, p 43.
Living leaves of *Lathyrus ochroleucus.*

2154. **U. Lilii,** Clinton. Reg. Rep. 27, p. 103.
Living leaves of *Lilium Canadense.*

749. PILEOLARIA, Cast.

2155. **P. brevipes,** B. and C. Reg. Rep. 24, p. 90.
Living leaves of *Rhus Toxicodendron.*

750. MELAMPSORA, Cast.

2156. **M. Hartigii,** Thum. (*Uredo epitea*, Kze.) Reg. Rep. 22, p. 91.
Leaves of *Salix nigra.*

2157. **M. populina,** Lev. (*Lecythea cylindrica*, Strauss.) Reg. Rep. 23, p. 58.
Leaves of *Populus.*

751. COLEOSPORIUM, Lev.

2158. **C. ochraceum,** Bon. Reg. Rep. 29, p. 51 (*Uredo Agrimoniæ*, Schw.)
Living leaves of *Agrimonia Eupatoria.*

2159. **C. miniatum,** Bon. (*Uredo effusa*, Strauss, Reg. Rep. 22, p. 92. *U. miniata*, Pers.)
Living leaves and stems of roses.

752. UREDO, Pers.

2160. **U. pustulata,** Pers. Reg. Rep. 23, p. 57
Living leaves of *Epilobium.*

2161. **U. luminata,** Schw. Reg. Rep. 22, p. 92. (*Æcidium luminatum*, Schw.)
Living leaves of *Rubus.*

2162. **U. Peckii,** Thum. (*U. æcidioides*, Pk.) Reg. Rep. 24, p. 88.
Living leaves and stems of *Amphicarpea monoica.*

2163. **U. Solidaginis,** Schw. Reg. Rep. 22, p. 91.
Living leaves and stems of *Solidago* and *Aster.*

2164. **U. Helianthi**, Schw. Reg. Rep. 24, p. 88.
Living leaves and stems of *Helianthus*.

2165. **U. Smilacis**, Schw. Reg. Rep. 27, p. 104.
Living leaves and stems of *Lilium Canadense*.

2166. **U. Cassandræ**, P. and C. Reg. Rep. 30, p. 54.
Living leaves and stems of *Cassandra calyculata*.

2167. **U. pyrolata**, Kornk. (*Uredo Pyrolæ*, Strauss. Reg. Rep. 22, p. 92.)
*Æcidium pyrolatum*, Schw.)
Living leaves and stems of *Pyrola rotundifolia*.

753. PROTOMYCES, Ung.

2168. **P. Menyanthis**, DeBy. Reg. Rep. 28, p. 61.
Leaves of *Menyanthes trifoliata*.

754. CRONARTIUM, Tul.

2169. **C. Comandræ**, Pk.
Living leaves and stems of *Comandra*.

755. GRAPHIOLA, Poit.

2170. **G. Phœnicis**, Poit. Reg. Rep. 29, p. 51.
Leaves of *Phœnix dissectifolia* in conservatories.

SUB-ORDER 4. HYPHOMYCETES.

756. CERATIUM, A. and S.

2171. **C. hydnoides**, A. and S. Reg. Rep. 26, p. 78.
Decaying wood.

757. SCORIAS, Fr.

2172. **S. spongiosa**, Fr.
Leaves and sticks under beeches and alders. This fungus occurs on whatever may chance to be moistened by the excretions of the woolly insects that infest beech and alder trees. I have seen it nowhere else. It is sometimes accompanied by some *Capnodium*, of which, I suspect, it is a condition.

758. ISARIA, Fr.

2173. **I. favinosa**, Fr.
Ground.

2174. **I. clavata**, Dittm.
Decaying wood.

759. STILBUM, Tode.

2175. **S. giganteum,** Pk. Reg. Rep. 24, p. 93.
Dead maple trunks and logs.

2176. **S. pellucidum,** Schrad. Reg. Rep. 24, p. 93.
Decaying wood.

2177. **S. smaragdinum,** A. and S. Reg. Rep. 29, p. 51.
Decaying wood.

2178. **S. Rhoidis,** B. and C. Reg. Rep. 24, p. 93.
Dead *Rhus typhina.*

2179. **S. erythrocephalum,** Dittm.
Horse dung.

760. FUSARIUM, Lk.

2180. **F. lateritium,** Nees. Reg. Rep. 25, p. 92.
Bark of *Dirca palustris.*

2181. **F. erubescens,** B and C. Reg. Rep. 24, p. 93.
Dead branches of *Tilia Americana.*

761. EPICOCCUM, Lk.

2182. **E. neglectum,** Desm. Reg. Rep. 29, p. 51.
Stems and leaves of *Zea Mays.*

762. ILLOSPORIUM, Mart.

2183. **I. roseum,** Fr. Reg. Rep. 25, p. 93.
Lichens.

2184. **I. carneum,** Fr. Reg. Rep. 23, p. 61.
On *Peltigera.*

763. ÆGERITA, Pers.

2185. **Æ. candida,** Pers. Reg. Rep. 29, p. 51.
Decaying wood.

764. SPOROCYBE, Fr.

2186. **S. byssoides,** Fr. Reg. Rep. 25, p. 93.
Dead stems of herbs.

765. TUBERCULARIA, Tode.

2187. **T. Celastri,** Schw. Reg. Rep. 26, p. 84.
Dead stems of *Celastrus scandens.*

2188. **T. subdiaphana**, Schw.
Dead stems of grape vine.

766. PERICONIA, Cd.

2189. **P. calicioides**, Fr. Reg. Rep. 22, p. 94.
Decaying wood. The name *Periconia* is applied by some authors to such species as have the stem composed of several compacted filaments, and the name *Sporacybe*, to such as have the stem formed of a single or simple filament. Other authors just reverse the application of these generic names, and therefore much confusion in their use is the result.

767. PODOSPORIUM, Schw.

2190. **P. rigidum**, Schw. Reg. Rep. 22, p. 94 : ibid. 24, p. 103.
Dead branches.

768. MACROSPORIUM, Fr.

2191. **M. Cheiranthi**, Fr. Reg. Rep. 23, p. 61.
Dead leaves and stems.

2192. **M. Sarcinula**, Berk. Reg. Rep. 30, p. 55.
Decaying squashes.

2193. **M. chartarum**, Pk. Reg. Rep. 25, p. 93.
Wall paper.

769. CLASTERISPORIUM, Schw.

2194. **C. uncinatum**, Clinton. Reg. Rep. 29, p. 50.
Fallen oak leaves.

770. HELMINTHOSPORIUM, Lk.

2195. **H. macrocarpum**, Grev. Reg. Rep. 22, p. 94.
Dead branches of oak and chestnut.

2196. **H. episphæricum**, C. and P. Reg. Rep. 29, p. 52.
Effete *Diatrype*.

2197. **H. obovatum**, Berk. (*Monotospora biseptata*, Pk. Reg. Rep. 28, p. 62).
Decaying wood.

771. CLADOSPORIUM, Lk.

2198. **C. herbarum**, Lk. Reg. Rep. 22, p. 94.
Dead stems, decaying fungi, etc.

2199. **C. epiphyllum,** Nees. Reg. Rep. 25, p. 94.
Dead leaves.

2200. **C. Typhæ,** Schw. Reg. Rep. 27, p. 105.
Dead leaves of *Typha.*

2201. **C. lignicola,** Cd. Reg. Rep. 27, p. 105.
Wood.

2202. **C. depressum,** B. and Br. Reg. Rep. 30, p. 54.
Living leaves of *Archangelica atropurpurea.* In the American specimens the filaments are longer than in the typical form, but the difference scarcely seems of specific value.

772. STREPTOTHRIX, Cd.

2203. **S. atra,** B. and C. Reg. Rep. 23, p. 61.
Dead branches of *Carpinus,* etc.

773. POLYTHRINCIUM, Kze.

2204. **P. Trifolii,** Kze. Reg. Rep. 22, p. 94.
Living leaves of clover.

774. ASPERGILLUS. Mich.

2205. **A. glaucus,** Lk. Reg. Rep. 26, p. 79.
Decaying fungi.

775. PERONOSPORA, DeBy.

2206. **P. parasitica,** Pers. Reg. Rep. 26, p. 79.
Living leaves of *Cardamine rhomboidea.*

2207. **P. effusa,** Grev. Reg. Rep. 29, p. 52.
Living leaves of *Chenopodium album.*

2208. **P. Corydalis,** DeBy.
Living leaves of *Dicentra* (*Diclytra*) *Canadensis.*

776. RAMULARIA, Ung.

2209. **R. Nemopanthis,** C. and P. Reg. Rep. 29, p. 52.
Living leaves of *Nemopanthes Canadensis.*

2210. **R. obovata,** Fckl. (*Peronospora obliqua,* Cke. Reg. Rep. 28, p. 63, *Ovularia obovata,* Sacc.)
Living leaves of *Rumex crispus.*

777. CYSTOPUS, DeBy.

2211. **C. cubicus,** Str. Reg. Rep. 25, p. 91.
Living leaves of *Tragopogon* and *Ambrosia.*

2212. **C. candidus,** Lev. Reg. Rep. 22, p. 93 : ibid. 24, p. 103.
Living leaves of cruciferous plants.

2213. **C. spinulosus,** DeBy. Reg. Rep. 29, p. 51.
Living leaves of *Cirsium arvense.*

2214. **C. Portulacæ,** DC. Reg. Rep. 29, p. 51.
Living leaves of *Portulaca oleracea.*

2215. **C. Bliti,** Biv. (*C. Amaranti*, Schw. Reg. Rep. 28, p. 61.)
Living leaves of *Amarantus retroflexus.*

778. CERCOSPORA, Fres.

2216. **C. Callæ,** P. and C. Reg. Rep. 29, p. 52.
Living leaves of *Calla palustris.*

779. HELICOSPORIUM, Nees.

2217. **H. ellipticum,** Pk. Reg. Rep. 27, p. 103.
Decaying hemlock wood.

780. TRICHODERMA, Pers.

2218. **T. viride,** Pers. Reg. Rep. 30, p. 87.
Decaying wood.

781. VERTICILLIUM, Nees.

2219. **V. pulvereum,** P. and C. Reg. Rep. 30, p. 56.
Decaying wood.

2220. **V. lateritium,** Ehrh.
Decaying wood.

782. POLYACTIS, Lk.

2221. **P. fascicularis,** Cd. Reg. Rep. 26, p. 79.
Dead stems of herbs.

2222. **P. cana,** Berk. Reg. Rep. 30, p. 57.
Dead stems and leaves.

783. SEPEDONIUM, Lk.

2223. **S. chrysospermum,** Lk. Reg. Rep. 24. p. 94.
Decaying *Boleti.*

784. FUSISPORIUM, Lk.

2224. **F. Buxi,** Fr. Reg. Rep. 23, p. 61.
Dead leaves of *Buxus sempervirens.*

2225. **F. rimosum**, Pk. Reg. Rep. 30, p. 58.
Cut surface of corn stalks.

785. PILACRE, Fr.

2226. **P. faginea**, B. and Br. Reg. Rep. 26, p. 79.
Decaying beech wood.

SUB-ORDER 5. PHYSOMYCETES.

786. MUCOR, Mich.

2227. **M. inæqualis**, Pk. Reg. Rep. 26, p. 79.
Decaying squashes and pumpkins.

2228. **M. stolonifer**, Ehrh. (*Ascophora Mucedo*, Tode. Reg. Rep. 25, p. 94.)
Decaying vegetable substances.

787. PILOBOLUS, Tode.

2229. **P. crystallinus**, Tode. Reg. Rep. 27, p. 106.
Horse dung.

788. EMPUSA, Cohn.

2230. **E. Muscæ**, Cohn. (*Sporendonema Muscæ*, Fr.)
Dead flies, (*Muscæ domesticæ*.)

SUB-ORDER 6. ASCOMYCETES.

789. ONYGENA, Pers.

2231. **O. equina**, Pers. Reg. Rep. 25, p. 94.
Old hoofs and horns.

790. SPHÆROTHECA, Lev.

2232. **S. Castagnei**, Lev. Reg. Rep. 25, p. 94.
Living leaves of various plants.

791. PHYLLACTINIA, Lev.

2233. **P. suffulta**, Reb. (*P. guttata*, Lev., Reg. Rep. 29, p. 79.)
Living leaves of various trees and shrubs, rarely on herbs.

792. UNCINULA, Lev.

2234. **U. adunca**, Lev. Reg. Rep. 23, p. 65.
Living leaves of willows.

2235. **U. macrospora,** Pk. Reg. Rep. 25, p. 96.
Living leaves of elm.

2236. **U. flexuosa,** Pk. Reg. Rep. 26, p. 80.
Living leaves of horse-chestnut.

2237. **U. Clintonii,** Pk. Reg. Rep. 25, p. 96.
Living leaves of basswood.

2238. **U. circinata,** C. and P. Reg. Rep. 25, p. 96.
Living leaves of maple.

2239. **U. Ampelopsidis,** Pk. (*U. subfusca*, B. and C.) Reg. Rep. 26, p. 80.
Living leaves of Virginia creeper.

2240. **U. spiralis,** B. and C. (*U. Americana*, Howe.) Reg. Rep. 26, p. 80.
Living leaves of grape vines.

### 793. PODOSPHÆRIA, Kze.

2241. **P. Kunzei,** Lev. (*P. Cerasi*, Lev., Reg. Rep. 24, p. 100.)
Living leaves of cherry and thorn.

### 794. MICROSPHÆRIA, Lev.

2242. **M. Hedwigii,** Lev. Reg. Rep. 25, p. 95.
Living leaves of *Viburnum*. *Erysiphe Viburni*, Schw., is probably the same species.

2243. **M. Van Bruntiana,** Ger. Reg. Rep. 28, p. 64.
Living leaves of *Sambucus Canadensis*. I have never been able to find more than four spores in an ascus in this fungus, and it is doubtful whether this form is specifically distinct from *M. Hedwigii*, although the tips of the appendages are generally more fully developed and have more numerous bifurcations than in that species.

2244. **M. penicillata,** Lev. Reg. Rep. 22, p. 100.
Living leaves of beech, birch and hazel.

2245. **M. Friesii,** Lev. Reg. Rep. 23, p. 65.
Living leaves of lilac.

2246. **M. Russellii,** Clinton. Reg. Rep. 26, p. 80.
Living leaves of *Oxalis stricta*.

2247. **M. abbreviata,** Pk. Reg. Rep. 28, p. 64.
Dead oak leaves.

2248. **M. densissima,** Schw. Reg. Rep. 26, p. 80.
Dead oak leaves.

2249. **M. Dubyi,** Lev. Reg. Rep. 26, p. 80.
Living leaves of *Lonicera*.

2250. **M. holosericea**, Lev. Reg. Rep. 25, p. 95.
Living leaves of *Astragalus Cooperi*.

2251. **M. Vaccinii**, C. and P. Reg. Rep. 23, p. 65.
Living leaves of *Vaccinium*.

2252. **M. extensa**, C. and P. Reg. Rep. 25, p. 95.
Living leaves of *Quercus*.

2253. **M. diffusa**, C. and P. Reg. Rep. 25, p. 95.
Living leaves of *Desmodium*.

795. ERYSIPHE, Hedw.

2254. **E. lamprocarpa**, Lev. Reg. Rep. 23, p, 65.
Living leaves of various plants.

2255. **E. Martii**, Lk. Reg. Rep. 25, p. 96.
Living leaves of *Leguminosæ*.

2256. **E. communis**, Schl. Reg. Rep. 22, p. 101.
Living leaves of *Ranunculaceæ*.

796. MORCHELLA, Dill.

2257. **M. esculenta**, Pers. Reg. Rep. 22, p. 44 : ibid. 28, p. 86.
Under evergreen trees.

2258. **M. semilibera**, DC. Reg. Rep. 30, p. 58.
Open woods.

797. GYROMITRA, Fr.

2259. **G. curtipes**, Fr.
Borders of woods.

798. HELVELLA, L.

2260. **H. crispa**, Fr. Reg. Rep. 24, p. 94.
Woods.

2261. **H. gracilis**, Pk. Reg. Rep. 24, p. 94.
Wet mossy places.

799. VERPA, Swartz.

2262. **V. digitaliformis**, Pers. Reg. Rep. 30, p. 59.
Open woods.

800. MITRULA, Fr.

2263. **M. paludosa**, Fr. Reg. Rep. 23, p. 62.
Sticks and leaves in wet places.

801. SPATHULARIA, Pers.

2264. **S. flavida,** Pers. Reg. Rep. 22, p. 87: ibid. 28, p. 87.
Woods.

802. LEOTIA, Hill.

2265. **L. lubrica,** Pers. Reg. Rep. 23, p. 62.
Thin woods.

803. CUDONIA, Fr.

2266. **C. lutea,** Pk. (*Vibrissea lutea*, Pk. Reg. Rep. 25, p. 97.)
Dense woods.

804. GEOGLOSSUM, Pers.

2267. **G. luteum,** Pk. (*Mitrula lutescens*, B. & C.) Reg. Rep. 24, p. 94.
Mossy places in woods.

2268. **G. Peckianum,** Cke. Reg. Rep. 28, p. 87. (*G. viscosum*, Pers. Reg. Rep. 25, p. 97.)
Swampy woods.

2269. **G. velutipes,** Pk. Reg. Rep. 28, p. 65.
Woods.

805. PEZIZA, L.

§ 1. *MACROPODES.*

2270. **P. Macropus,** Pers. Reg. Rep. 22, p. 94.
Woods and open places.

2271. **P. hesperidea,** C. and P. Reg. Rep. 26, p. 80.
Woods and on buried sticks.

2272. **P. Warnei,** Pk. (*Rhizina Helvetica*, Fckl.) Reg. Rep. 30, p. 59.
Decaying hemlock wood.

§ 2. *COCHLEATÆ.*

2273. **P. badia,** Pers. Reg. Rep. 25, p. 98.
Damp ground and shaded banks.

2274. **P. cochleata,** Huds. Reg. Rep. 23, p. 62.
Ground in stoves.

2275. **P. aurantia,** Vahl. Reg, Rep. 23, p. 62: ibid. 24, p. 103.
Ground.

§ 3. *CUPULARES.*

2276. **P. repanda,** Wahl. Reg. Rep. 28, p. 65.
Ground and mossy trunks.

2277. **P. pallidula,** C. and P. Reg. Rep. 28, p. 65.
Decaying wood.

§ 4. *HUMARIA.*

2278. **P. adusta,** C. and P. Reg. Rep. 27, p. 107.
Burnt ground.

2279. **P. omphalodes,** Bull. Reg. Rep. 28, p. 65.
Burnt ground.

§ 5. *SARCOSCYPHÆ.*

2280. **P. coccinea,** Jacq. Reg. Rep. 23, p. 62.
Half buried sticks.

2281. **P. scutellata,** L. Reg. Rep. 22, p. 94.
Soft decaying wood and wet ground.

2282. **P. erinaceus,** Schw. Reg. Rep. 24, p. 95.
Decaying wood.

2283. **P. hemispherica,** Wigg. Reg. Rep. 24, p. 95.
Decaying wood and mossy ground.

2284. **P. theleboloides,** A. and S. Reg. Rep. 26, p. 81.
Spent hops in a stove.

2285. **P. stercorea,** Pers. Reg. Rep. 25 p. 98.
Cow dung.

2286. **P. allospadicea,** Grev. Reg. Rep. 29, p. 54.
Mossy ground.

2287. **P. floccosa,** Schw. Reg. Rep. 23, p. 62.
Decaying wood and sticks.

§ 6. *DASYSCYPHÆ.*

2288. **P. calycina,** Schw. Reg. Rep. 22, p. 94.
Bark of acerose trees.

2289. **P. Agassizii,** B. and C. Reg. Rep. 22, p. 95.
Bark of *Abies balsamea.*

2290. **P. subochracea,** C. and P. Reg. Rep. 26 p. 81.
Dead *Rubus odoratus.*

2291. **P. nivea,** Fr. Reg. Rep. 25, p. 99.
Decaying oak.

2292. **P. virginea,** Batsch. Reg. Rep. 23, p. 62.
Decaying wood and stems.

2293. **P. vulpina,** Cke. Reg. Rep. 30, p. 60.
Decaying wood.

2294. **P. maculincola,** Schw. Reg. Rep. 30, p. 60.
Decaying wood. Some authors regard this as identical with *P. flammea*, A. and S., but as the specimens in the Schweinitzian Herbarium indicate some differences I have not united the two forms.

2295. **P. hyalina,** Pers. Reg. Rep. 28, p. 66.
Decaying wood.

2296. **P. translucida,** B. and C. Reg. Rep. 22, p. 95.
Decaying wood.

2297. **P. Tiliæ,** Pk. Reg. Rep. 24, p. 96.
Dead branches of basswood.

§ 7. *TAPESIA.*

2298. **P. sanguinea,** Pers. (*Patellaria sanguinea*, Karst.)
Decaying wood.

§ 8. *HYMENOSCYPHÆ.*

2299. **P. Persoonii,** Mong. Reg. Rep. 24, p. 96. (*Stamnaria Persooni*, Fckl.)
Dead stems of *Equisetum hiemale.*

2300. **P. cyathoidea,** Bull. Reg. Rep. 22, p. 95.
Dead herb stems.

2301. **P. albumina,** C. and P. Reg. Rep. 26, p. 81.
Decaying wood and stems.

§ 9. *DURELLA.*

2302. **P. macrospora,** Fckl. Reg. Rep. 30, p. 61. (*D. compressa*, A. and S. Reg. Rep. 22, p. 95.)
Decaying wood.

2203. **P. flexella,** Fr. Reg. Rep. 22, p. 95.
Decaying wood. This is referred to lichens by some authors.

§ 10. *MOLLISIA.*

2304. **P. vinosa,** A. and S. Reg. Rep. 24, p. 95.
Decaying wood.

2305. **P. cinerea,** Batsch. Reg. Rep. 28, p. 86.
Decaying wood.

2306. **P. assimilis,** C. and P. Reg. Rep. 26, p. 81.
Dead herb stems.

2307. **P. planodisca,** P. and C. Reg. Rep. 31, p. 46.
Dead Stems of *Andropogon.*

2308. **P. Dehnii,** Rabh. Reg. Rep. 26, p. 81.
Living stems of *Potentilla argentea.*

2309. **P. Sphærella,** P. and C.
Dead stems of *Trifolium pratense.*

806. HELOTIUM, Fr.

2310. **H. aciculare,** Fr. Reg. Rep. 27, p. 107.
Half buried wood.

2311. **H. æruginosum,** Fr. (*Peziza æruginosa*, Fr. Reg. Rep. 24, p. 95.)
Decaying wood. This species and the next are by some deemed generically distinct, and referred to a genus *Chlorosplenium.*

2312. **H. versiforme,** Fr. (*Craterellus cæspitosus*, Pk. Reg. Rep. 25, p. 82.)
Decaying wood.

2313. **H. rugipes,** Pk. Reg. Rep. 26, p. 82.
Decaying wood.

2314. **H. citrinum,** Fr. Reg. Rep. 22, p. 95.
Decaying wood.

2315. **H. salicellum,** Fr. Reg. Rep. 28, p. 67.
Dead willow twigs.

2316. **H. Herbarum,** Fr. (*Peziza Herbarum*, Fr. Reg. Rep. 22, p. 95.)
Dead stems.

2317. **H. epiphyllum,** Fr. Reg. Rep. 25, p. 98.
Fallen leaves.

2318. **H. Sarmentorum,** De Not.
Dead grape vines.

807. DERMATEA, Fr.

2319. **D. fascicularis,** A. and S. (*Peziza fascicularis*, Fr. Reg. Rep. 22, p. 96.)
Dead poplar trunks and branches.

2320. **D. furfuracea,** Fr. Reg. Rep. 24, p. 96.
Dead alders.

2321. **D. carpinea,** Fr. Reg. Rep. 30, p. 62. (*Patellaria carpinea*, Berk.)
Dead trunks of *Carpinus.*

2322. **D. acericola,** Pk. (*Nodularia acericola*, Pk. Reg. Rep. 25 p. 98.)
Dead *Acer spicatum.*

808. PATELLARIA, Fr.

2323. **P. atrata,** Fr. Reg. Rep. 24, p. 96.
Decaying wood.

2324. **P. indigotica,** C. and P. Reg. Rep. 25, p. 98.
Decaying wood.

2325. **P. fusispora,** C. and P. Reg. Rep. 28, p. 67.
Decaying wood.

2326. **P. lignyota,** Fr. Reg. Rep. 30, p. 62.
Decaying wood.

2327. **P. leptospermum,** Pk. Reg. Rep. 30, p. 62.
Decaying wood of maple.

2328. **P. rhabarbarinum,** Berk. Reg. Rep. 22, p. 96.
Dead stems of *Rubus villosus.*

809 SPHINCTRINA, Fr.

2329. **S. turbinata,** Fr. Reg. Rep. 22, p. 95.
On lichens.

2330. **S. tigillaris,** B. and Br. Reg. Rep. 28, p. 68.
On *Polyporus pergamenus* and *P. abietinus.*

2331. **S. gummæ,** B. and M. (*S. Cerasi,* B. and C. Reg. Rep. 24, p. 97.)
On gum of cherry.

810. TYMPANIS, Tode.

2332. **T. alnea,** Pers. Reg. Rep. 24, p. 97.
Dead alders.

2333. **T. Fraxini,** Schw. Reg. Rep. 27, p. 108.
Dead branches of ash.

2334. **T. gyrosa,** B. and C. Reg. Rep. 29, p. 56.
Dead branches of apple.

2335. **T. turbinata,** Schw. Reg. Rep. 30, p. 62.
Dead *Diervilla trifida.*

811. URNULA, Fr.

2336. **U. Craterium,** Schw. Reg. Rep. 22, p. 96. (*Peziza Craterium,* Schw., *Cenangium Craterium,* Fr., *Dermea Craterium,* Schw.)
Half buried sticks.

812. CENANGIUM, Fr.

2337. **C. Cerasi,** Fr. Reg. Rep. 24, p. 97.
Dead cherry.

2338. **C. Prunastri,** Fr. Reg. Rep. 24, p. 97.
Dead cherry.

2339. **C. Aucupariæ,** Fr. Reg. Rep. 28, p. 68.
Dead branches of *Amelanchier.*

2340. **C. Pinastri,** Fr. Reg. Rep. 22, p. 96.
Dead branches of pine.

2341. **C. seriatum,** Fr. Reg. Rep. 22, p. 96.
Dead birch.

2342. **C. populinum,** Schw. Reg. Rep. 22, p. 96.
Dead poplar.

2343. **C. triangulare,** Schw. Reg. Rep. 24, p. 97.
Dead oak.

2344. **C. Viburni,** Schw.
Dead *Viburnum lantanoides.*

813. ASCOBOLUS, Tode.

2345. **A. furfuraceus.** Pers. Reg. Rep. 29, p. 56.
Cow dung.

2346. **A. ciliatus,** Schm. Reg. Rep. 29, p. 56.
Cow dung.

814. ANGELINA, Fr.

2347. **A. rufescens,** Duby. (*Ascobolus conglomeratus*, Schw. Reg. Rep. 22, p. 95.)
Decaying chestnut and oak.

815. BULGARIA, Fr.

2348. **B. inquinans,** Pers. Reg. Rep. 22, p. 95.
Dead oak.

2349. **B. rufa,** Schw. Reg. Rep. 23, p. 62.
Ground or buried sticks.

2350. **B. sarcoides,** Fr. Reg. Rep. 22, p. 95.
Decaying wood.

2351. **B. purpurea,** Fckl. Reg. Rep. 29, p. 56. (*Coryne purpurea*, Fckl.)
Decaying wood.

816. STICTIS, Pers.

2352. **S. radiata,** Pers. Reg. Rep. 25, p. 99.
Dead bark.

2353. **S. Pupula,** Fr. Reg. Rep. 28, p. 69.
Dead poplar.

2354. **S. versicolor,** Fr. Reg. Rep. 29, p. 56.
Decaying wood.

2355. **S. hysterina,** Fr. Reg. Rep. 28, p. 69.
Dry pine branches.

817. PHACIDIUM, Fr.

2356. **P. Pini,** Fr. (*P. crustaceum*, B. and C. Reg. Rep. 22, p. 97. *Xyloma Pini*, A. and S.)
Dead pine branches. Our specimens apparently belong to the form noticed in Elenchus II, p. 136, in which the perithecia have a cinereous hue by reason of the covering epidermis.

818. RHYTISMA, Fr.

2357. **R. salicinum,** Fr. Reg. Rep. 22, p. 97.
Living leaves of willows.

2358. **R. acerinum,** Fr. Reg. Rep. 22, p. 96.
Living leaves of maple.

2359. **R. punctatum,** Fr. Reg. Rep. 22, p. 96.
Living leaves of maple. This is thought by some to be a form of the preceding species.

2360. **R. Prini,** Schw. Reg. Rep. 22, p. 96.
Living leaves of *Ilex verticillata*.

2361. **R. Canadensis,** Schw. Reg. Rep. 25, p. 100.
Living leaves of *Nemopanthes Canadensis*. Name simplified from *R. Ilicis-Canadensis*. *R. Asteris*, Schw., and *R. Solidaginis*, Schw., have never been found fertile, and are, in my opinion, simply insect galls.

2362. **R. Andromedæ,** Fr. Reg. Rep. 25, p. 100.
Living leaves of *Andromeda polifolia*.

819. GLONIUM, Muhl.

2363. **G. stellatum,** Muhl. Reg. Rep. 23, p. 63.
Decaying wood.

2364. **G. parvulum,** Ger. Reg. Rep. 30, p. 63. (*G. medium*, Cke.)
Decaying wood.

2365. **G. lineare,** Fr. (*Hysterium lineare*, Fr. Reg. Rep. 22, p. 97.)
Decaying wood.

820. HYSTERIUM, Tode.

2366. **H. pulicare,** Pers. Reg. Rep. 24, p. 97.
Decaying wood. *H. betulignum*, Schw., is not specifically distinct from *H. pulicare*.

2367. **H. truncatulum,** C. and P. Reg. Rep. 30, p. 63.
Decaying wood.

2368. **H. Rousselii,** De Not. Reg. Rep. 28, p. 69.
Decaying wood.

2369. **H. tortile,** Schw. Reg. Rep. 25, p. 100.
Dead wood and bark of *Thuja occidentalis.*

2370. **H. insidens,** Schw.
Decaying wood.

821. HYSTEROGRAPHIUM, Cd.

2371. **H. Fraxini,** Pers. (*Hysterium Fraxini*, Pers. Reg. Rep. 23, p. 63.
Dead branches of ash.

822. TRIBLIDIUM, Reb.

2372. **T. hiascens,** B. and C. (*Hysterium hiascens*, B. and C. Reg. Rep. 22 p. 97.)
Bark of *Quercus alba.*

823. HYPODERMA, DC.

2373. **H. Virgultorum,** DC. Reg. Rep. 24, p. 97.
Dead twigs This and the four following species were formerly placed under the genus *Hysterium.*

2374. **H. Rubi,** Pers. Reg. Rep. 23, p. 63.
Dead twigs of *Rubus villosus.*

2375. **H. commune,** Fr. Reg. Rep. 25, p. 100.
Dead stems of herbs.

824. LOPHODERMIUM, Chev.

2376. **L. Pinastri,** Schrad. Reg. Rep. 22, p. 97.
Fallen pine Leaves.

2377. **L. Rhododendri,** Schw. Reg. Rep. 27, p. 108.
Leaves of *Rhododendron maximum.*

825. COLPOMA, Wallr.

2378. **C. juniperinum,** C. and P. Reg. Rep. 26, p. 84 : ibid. 29, p. 63,
Bark of *Juniperus Virginiana.*

826. TORRUBIA, Lev.

2379. **T. ophioglossoides,** Tul. Reg. Rep. 25, p. 100.
Buried larvæ.

2380. **T. militaris,** L. (*Cordyceps militaris*, Fr. Reg. Rep. 23, p. 63.)
Buried larvæ.

827. EPICHLOE, Fr.

2381. **E. typhina,** Berk. Reg. Rep. 28, p. 71.
Living stems of grasses and carices.

828. HYPOCREA. Fr.

2382. **H. gelatinosa,** Tode. Reg. Rep. 25, p. 100.
Decaying wood.

2383. **H. citrina,** Pers. Reg. Rep. 22, p. 97.
Old *Polypori*, etc.

2384. **H. alutacea,** Pers. Reg. Rep. 26, p. 84.
Apparently parasitic on *Spathularia*.

2385. **H. Richardsonii,** B. and M. Reg. Rep, 22, p. 97 : ibid. 24, p. 103.
Dead poplar.

2386. **H. contorta,** Schw. Reg. Rep. 26, p. 84.
Decaying wood.

2387. **H. chromosperma**, C. and P. Reg. Rep. 29, p. 56.
Decaying wood.

2388. **H. Patella,** C. & P. Reg. Rep. 29. p. 57.
Decaying wood.

829. HYPOMYCES, Tul.

2389. **H. Lactifluorum**, Schw. (*Hypocrea Lactifluorum*, Schw. Reg. Rep. 22, p. 97.)
Parasitic on fungi.

2390. **H. aurantius,** Pers. Reg. Rep. 27, p. 108.
Decaying fungi.

830. CHILONECTRIA, Sacc.

2391. **C. Rosellinii,** Carest. (*Nectria balsamea*, C. and P. Reg. Rep. 26, p. 84.)
Dead bark of *Abies balsamea*.

2392. **C. callista,** B. and C. (*Sphæria callista*, B. and C. Reg. Rep. 28, p. 77.)
Dead bark of *Cornus alternifolia*. This is *Sphæria callista*, B. and C., in Ravenal's Fung. Car. Exsic. Fasc. V. No. 67, and *Cucurbitaria callista*, B. and C., in Grevillea, Vol. IV, p. 47. Both in the Ravenelian specimens and in the New York specimens, the asci are polysporous, and I have therefore referred the species to the genus *Chilonectria*.

2393. **C. oötheca,** B. and C. *Sphæria ootheca*, B. and C. Reg. Rep. 24, p. 99.)
Decaying wood.

831. NECTRIA. Fr.

2394. **N. cinnabarina,** Tode. Reg. Rep. 22, p. 98.
Dead trunks and branches.

2395. **N. cucurbitula,** Fr. Reg. Rep. 22, p. 99.
Dead branches of *Rhamnus*.

2396. **N. inaurata,** B. and Br. Reg. Rep. 24, p. 98.
Dead stems of *Celastrus*, *Rhus*, etc.

2397. **N. coccinea,** Pers. Reg. Rep. 26, p. 84.
Dead *Alnus*, *Carpinus*, etc.

2398. **N. episphæria,** Tode. Reg. Rep. 27, p. 108.
Old sphæriaceous fungi.

2399. **N. Celastri,** Schw. Reg. Rep. 26, p. 84.
Dead *Celastrus scandens*.

2400. **N. Ribis,** Tode. Reg. Rep. 26, p. 84.
Dead stems of *Ribes rubrum*,

2401. **N. Peziza,** Tode. Reg Rep. 24, p. 98.
Decaying wood.

832. GIBBERA, Fr.

2402. **G. pulicaris,** Fr. (*Nectria pulicaris*, Fr. Reg. Rep. 30, p. 76.)
Old corn stalks.

833. MELANOSPORA, Cd.

2403. **M. lagenaria,** Pers. (*Sphæria lagenaria*, Pers. Reg. Rep. 27. p. 110.
Old *Polypori*.

834. XYLARIA, Fr.

2404. **X. polymorpha,** Grev. Reg. Rep. 22, p. 97.
Decaying wood.

2405. **X. grandis,** Pk. Reg. Rep. 26, p. 85.
Decaying wood.

2406. **X. corniformis,** Fr. Reg. Rep. 24. p. 97.
Decaying wood.

2407. **X. acuta,** Pk. Reg. Rep. 25, p. 101.
Decaying wood.

2408. **X. digitata,** Grev. Reg. Rep. 24, p. 97.
Decaying wood.

2409. **X. Hypoxylon,** Grev. Reg. Rep. 22, p. 97.
Decaying wood.

835. HYPOXYLON, Fr.

2410. **H. concentricum,** Bolt. Reg. Rep. 24, p. 97.
Decaying wood. This is *Daldinia concentrica* of some authors. *Hypoxylon vernicosum*, Schw., is a mere form of this species.

2411. **H. coccineum,** Bull. (*H. fragiforme*, Pers. Reg. Rep. 22, p. 98.)
Decaying wood.

2412. **H. Howeanum,** Pk. Reg. Rep. 24, p. 98.
Decaying wood.

2413. **H. fuscum,** Pers. Reg. Rep. 22, p. 97.
Decaying wood.

2414. **H. cohærens,** Pers. Reg. Rep. 22, p. 98.
Decaying wood of beech.

2415. **H. Morseii,** B. and C. Reg. Rep. 24, p. 98.
Decaying wood of alder.

2416. **H. Blakeii,** B. and C.
Decaying wood of willow.

2417. **H. serpens,** Pers. Reg. Rep. 22, p. 98.
Decaying wood.

2418. **H. perforatum,** Schw. Reg. Rep. 24, p. 98.
Decaying wood.

2419. **H. multiforme,** Fr. Reg. Rep. 22, p. 98.
Decaying wood and bark.

2420. **H. suborbiculare,** Pk. Reg. Rep. 30, p. 63.
Decaying wood of black ash. This is *Diatrype cercidicola*, B. and C. Report 25, p. 100.

2421. **H. fuscopurpureum,** Schw. Reg. Rep. 28, p. 71.
Decaying wood.

2422. **H. atropurpureum,** Fr.
Decaying wood of *Tilia Americana*.

836. NUMMULARIA, Tul.

2423. **N. Bulliardi,** Tul. (*Hypoxylon clypeus*, Schw. *H. nummularia*, Bull. Reg. Rep. 22, p. 98.)
Dead trunks and branches of oak and maple.

837. EUTYPA, Tul.

2424. **E. spinosa,** Pers. (*Sphæria limaformis*, Schw. Reg. Rep. 22, p. 97.)
Decaying wood.

2425. **E. lata,** Pers. Reg. Rep. 25, p. 102.
Decaying wood.

838. MELOGRAMMA, Fr.

2426. **M. Bulliardi,** Tul. Reg. Rep. 28, p. 71.
Bark of *Carpinus*.

2427. **M. superficialis,** P. and C. Reg. Rep. 29, p. 57.
Living bark of mountain ash.

2428. **M. fuliginosa,** M. and N. (*M. Quercuum*, Schw. Reg. Rep. 23. p. 63.)
Dead branches of oak, etc.

2429. **M. gyrosa,** Schw. (*Sphæria gyrosa*, Schw. Reg. Rep. 24, p, 99, *Endothia gyrosa*, Fckl.)
Decaying wood of beech.

839. DOTHIDEA, Fr.

2430. **D. Sambuci,** Pers. Reg. Rep 24, p. 99.
Dead stems of *Sambucus Canadensis.*

2431. **D. Ribesia,** Pers. Reg. Rep. 24, p. 99.
Dead stems of *Ribes rubrum.*

2432. **D. Linderæ,** Ger. Reg. Rep. 28, p. 71.
Dead branches of *Lindera Benzoin.*

2433. **D. vimincola,** Schw. Reg. Rep. 30. p. 64. (*Hysterium vimincola*, Schw.)
Dead branches of *Diervilla trifida.*

2434. **D. clavispora,** C. and P. Reg. Rep. 30, p. 76. (*Hysterium clavisporum*, C. and P. Reg. Rep. 28, p. 69.)
Dead stems of *Phragmites communis.*

2435. **D. Osmundæ,** P. and C. Reg. Rep. 30, p. 64.
Dead stems of *Osmunda regalis.*

840. PHYLLACHORA, Nke.

2436. **P. Potentillæ,** Schw. Reg. Rep. 22, p. 100.
Leaves of *Potentilla Canadensis.* This and the three following species were formerly referred to the genus *Sphæria.*

2437. **P. perisporioides,** B. and C. Reg. Rep. 28, p. 80.
Leaves of *Desmodium Canadense.*

2438. **P. graminis,** Pers. Reg. Rep. 23, p. 64.
Leaves of grasses.

2439. **P. Ulmi,** Sow. (*Sphæria Ulmea*, Schw. Reg. Rep. 22, p. 99.)
Leaves of elms.

2440. **P. Trifolii,** Pers. Reg. Rep. 25, p. 102.
Leaves of *Trifolium pratense.*

841. DIATRYPE, Fr.

2441. **D. stigma,** Hoffm. Reg. Rep. 22, p. 98.
Dead trunks and branches.

2442. **D. disciformis,** Fr. Reg. Rep. 22, p. 98.
Dead trunks and branches.

2443. **D. platystoma,** Schw. Reg. Rep. 26 p. 85.
Dead trunks and branches.

2444. **D. atropunctata,** Schw. Reg. Rep. 26, p. 101.
Dead trunks and branches.

2445. **D. Duriæi,** Mont. Reg. Rep. 23, p. 63.
Dead trunks and branches.

2446. **D. virescens,** Schw. Reg. Rep. 23, p. 63.
Dead trunks and branches of beech.

2447. **D. quadrata,** Schw. (*L. obesa*, B. and C. *D. brunnea*, C. and P.)
Dead trunks and branches.

2448. **D. anomala,** Pk. Reg. Rep. 28, p. 72.
Dead trunks of *Corylus*.

842. DIATRYPELLA, Ces. and DeNot.

2449. **D. Cephalanthi,** Schw. Reg. Rep. 29, p. 58.
Dead *Cephalanthus occidentalis*.

2450. **D. discoidea,** C. and P. (*Diatrype discoidea*, C. and P. Reg. Rep. 28, p. 71.)
Dead *Betula populifolia*.

2451. **D. prominens,** Howe. Reg. Rep. 28, p. 72.
Dead *Platanus occidentalis*.

2452. **D. Tocciæana,** DeNot. Reg. Rep. 26, p. 86.
Dead *Alnus incana*.

843. MELANCONIS, Tul.

2453. **M. stilbostoma,** Fr. Reg. Rep. 26, p. 86. (*Valsa stilbostoma*. Fr. Reg. Rep. 22, p. 98.)
Dead trunks and branches.

2454. **M. bicornis,** Cke. Reg. Rep. 28, p. 72.
Dead *Platanus occidentalis*.

844. HERCOSPORA, Fr.

2455. **H. Tiliæ,** Fr.
Dead branches of *Tilia Americana*. *Sphœria Tiliæ*, Reg. Rep. 24, p. 99, is a synonym of this, as also are *Valsa Tiliæ*, *Valsaria Tiliæ* and *Valsa tilaginea*. *Rabenhorstia Tiliæ* and *Exosporium Tiliæ* are considered by some to be other conditions of this species.

### 845. CRYPTOSPORA, Tul.

2456. **C. suffusa,** Fr. (*Valsa suffusa*, Fr. Reg. Rep. 28, p. 74.)
Dead alders.

2457. **C. femoralis,** Pk. (*Valsa femoralis*, Pk. Reg. Rep. 28, p. 74.)
Dead alders and basswood.

### 846. QUATERNARIA, Tul.

2458. **Q. Persoonii,** Nke. (*Valsa quaternata*, Fr. Reg. Rep. 25, p. 103.)
Dead trunks and branches.

### 847. VALSA, Fr.

2459. **V. stellulata,** Fr. (*Diatryphe haustella*, Fr. Reg. Rep. 23, p. 63.)
Dead trunks and branches.

2460. **V. juglandicola,** Schw. Reg. Rep. 30, p. 64.
Dead trunks and branches of *Carya alba*.

2461. **V. nivea,** Fr. Reg. Rep. 22, p. 98.
Dead trunks and branches of poplars.

2462. **V. leucostoma,** Fr. Reg. Rep. 24, p. 98.
Dead branches of plums, etc.

2463. **V. salicina,** Fr. Reg. Rep. 24, p. 98.
Dead branches of willows.

2464. **V. ambiens,** Fr. Reg. Rep. 25, p. 102.
Dead branches of poplars, etc.

2465. **V. Platani,** Schw. Reg. Rep. 25, p. 103.
Dead branches of *Platanus*.

2466. **V. Vitis,** Schw. Reg. Rep. 25, p. 103.
Dead branches of *Vitis*.

2467. **V. Pini,** A. and S. Reg. Rep. 24, P. 99.
Dead branches of pine trees.

2468. **V. colliculus,** Wormsk. Reg. Rep. 25, p. 103.
Dead branches of pine trees.

2469. **V. Alni,** Pk. Reg. Rep. 25, p. 103.
Dead branches of alders.

2470. **V. centripeta,** Fr. Reg. Rep. 26, p, 86.
Dead branches of alders.

2471. **V. aculeans,** Schw. (*Sphæria aculeans*, Schw. Reg. Rep. 24, p. 99.)
Dead branches of sumach.

### 848. CUCURBITARIA, Fr.

2472. **C. elongata**, Grev. (*Sphæria elongata*, Fr. Reg. Rep. 23. p. 64.)
Dead branches of *Robinia*

2473. **C. Berberidis,** Gray. Reg. Rep. 30, p. 65.
Dead barberry.

### 849. MASSARIA, DeNot.

2474. **M. vomitoria,** B. and C. Reg. Rep. 23, p. 65.
Dead maple.

2475. **M. atroinquinans,** B. and C.
Dead buttonwood.

### 850. LOPHIOSTOMA, DeNot.

2476. **L. triseptata,** Pk. Reg. Rep. 28, p. 76.
Decaying wood.

### 851. SPHÆRIA, Hall.

Modern mycologists have divided the old genus *Sphæria* into many smaller genera with narrower limits. Most of our species fall readily enough into these modern genera, but in a few instances these generic limits are not wholly satisfactory, and will need some modification. So far as possible I have grouped our species with reference to these modern genera. C. H. P.

§ 1. *SPHÆRIA* proper.

2477. **S. monosperma,** Pk. Reg. Rep. 28, p. 79.
Decaying wood. There is a genus of lichens, *Sporopodium*, Mont., whose species have spores similar to those found in this *Sphæria*, but in other respects the plants are quite unlike.

2478. **S. exilis,** A. and S. Reg. Rep. 29, p. 61.
Decaying wood. The bristly perithecia separate this species from the genus *Cœlosphæria*. Perhaps the more comprehensive genus *Nitschkia* might include it.

2479. **S. morbosa,** Schw. Reg. Rep. 23, p. 64.
Living branches of plum and cherry trees. This species has been referred by some botanists to the genus *Cucurbitaria*, but it does not well agree with the characters of that genus. It comes very near to *Dimerosporium*, Fckl., from which its cylindrical (not ovoid) asci separate it.

2480. **S. fraxicola,** Schw. Reg. Rep. 25, p. 105.
Fallen ash leaves.

2481. **S. Daturæ,** Schw. Reg. Rep. 28, p. 79.
Dead stems of *Datura Tatula.*

§ 2. *ROSELLINIA*, DeNot.

2482. **S. aquila,** Fr. Reg. Rep. 23, p. 63.
Decaying wood and branches.

2483. **S. pulveracea,** Ehrh. Reg. Rep. 25, p. 104.
Decaying wood.

2484. **S. millegrana,** Schw.
This species scarcely differs from the preceding except in the size and shape of the spores.

2485. **S. hirtissima,** Pk. Reg. Rep. 28, p. 78.
Decaying wood of pine.

2486. **S. capillifera,** Curr.
Decaying wood.

2487. **S. mutans,** C. and P. Reg. Rep. 26, p. 87 : ibid. 29, p. 64.
Decaying wood.

§ 3. *BOMBARDIA*, Fr.

2488. **S. bombarda,** Batsch. Reg. Rep. 25, p. 104. (*Bombardia fasciculata* Fr.)
Decaying wood.

§ 4. *LEPTOSPORA*, Rabh.

2489. **S. spermoides,** Hoffm. Reg. Rep. 29, p. 61.
Decaying wood.

§ 5. *BERTIA*, DeNot.

2490. **S. moriformis,** Tode. Reg. Rep. 25, p. 104.
Decaying wood.

§ 6. *MELANOMMA*, Nke.

2491. **S. pulvis-pyrius,** Pers. Reg. Rep. 22, p. 99.
Decaying wood.

§ 7. *SORDARIA*, Ces. and DeNot.

2492. **S. coprophila,** Fr. (*Hypoxylon coprophila*, Fr. Reg. Rep. 23. p. 63.)
Cow dung.

2493. **S. leucoplaca,** B. and R. Reg. Rep. 25, p. 105.
Cow dung.

§ 8. *SPORORMIA*, DeNot.

2494. **S. minima,** And. Reg. Rep. 28, p. 78.
Cow dung.

§ 9. *LASIOSPHÆRIA*, Ces. and DeNot.

2495. **S ovina,** Pers. Reg. Rep. 22, p. 99.
Decaying wood.

§ 10. *TRICHOSPHÆRIA*, Fckl.

2496. **S. exigua,** C. and P. Reg. Rep. 30, p. 65.
Decaying wood.

§ 11. *ECHNIOSPHÆRIA*, Fckl.

2497. **S. Clintonii,** Pk. Reg. Rep. 30, p. 65.
Decaying wood.

§ 12. *CERATOSTOMA*, Fr.

2498. **S. rostrata,** Tode. Reg Rep. 22, p. 99.
Decaying wood.

2499. **S. rubefaciens,** Pk. Reg. Rep. 28, p. 79.
Decaying wood.

2500. **S. pilifera,** Fr. Reg. Rep. 27, p. 110.
Decaying wood.

§ 13. *DIAPORTHE*, Nke.

2501. **S. spiculosa,** Pers. Reg. Rep. 29, p 61.
Dead branches.

2502. **S. aculeata,** Schw. Reg. Rep. 22, p. 99.
Dead stems of herbs.

§ 14. *RAPHIDOPHORA*, Ces. and DeNot.

2503. **S. rubella,** Pers. Reg. Rep. 25, p. 104.
Dead stems of herbs.

2504. **S. acuminata,** Sow. Reg Rep. 22, p. 99.
Dead stems of *Cirsium*, etc.

§ 15. *ZIGNOELLA*, Sacc.

2505. **S. pulviscula,** Curr.
Decaying wood.

§ 16. *PLAGIOSTOMA*, Fckl.

2506. **S. eccentrica,** C. and P. Reg. Rep. 25, p. 105.
Dead stems of *Polygonum*.

§ 17. *PLEOSPORA*, Rabh.

2507. **S. Herbarum,** Pers. Reg. Reg. 30, p. 67.
Dead *Scirpus validus*.

2508. **S. infectoria,** Fckl.
Dead *Calamagrostis arenaria*.

§ 18. *LEPTOSPHÆRIA*, Ces. and DeNot.

2509. **S. Doliolum,** Pers. Reg. Rep. 23, p. 64.
Dead stems of herbs.

2510. **S. subconica,** C. and P. Reg. Rep. 26, p. 87.
Dead stems of herbs.

2511. **S. complanata,** Tode.
Dead stems of herbs.

2512. **S. staphylina,** Pk. Reg. Rep. 26, p. 86.
Dead branches of *Staphylea trifolia.*

2513. **S. taxicola,** Pk. Reg. Rep. 24, p. 99.
Leaves of *Taxus Canadensis.*

2514. **S. Hendersonia,** Ellis. (*S. fuscella*, B. and Br. Reg. Rep. 26, p 87. *S. melantera*, Pk. Reg. Rep. 29, p. 62.)
Dead stems of *Rubus strigosus.*

§ 19. *GNOMONIA*, Ces. and DeNot.

2515. **S. fimbriata,** Pers. Reg. Rep. 22, p. 100.
Living leaves of *Carpinus* and *Ostrya.*

2516. **S. Coryli,** Batsch. Reg. Rep. 22, p. 100.
Living leaves of *Corylus.*

2517. **S. tubæformis,** Tode. Reg. Rep. 28, p. 80.
Fallen leaves of *Carya alba.*

2518. **S. melanostyla,** DC. Reg. Rep. 25, p. 105
Fallen leaves of *Rubus odoratus.*

2519. **S. amœna,** Nees. (*S. petiolorum*, Schw. Reg. Rep. 25, p. 105.)
Petioles of ash leaves.

852. SPHÆRELLA, DeNot.

2520. **S. maculæformis,** Pers. (*Sphæria maculæformis*, Pers. Reg. Rep. 26, p. 86.
Fallen leaves of *Nyssa.*

2521. **S. onosmodina,** Pk. (*Sphæria onosmodina*, Pk. Reg. Rep. 30, p. 67.)
Dead stems of *Onosmodium Carolinianum.*

2522. **S. Sarraceniæ,** Schw. (*Sphæria Sarraceniæ*, Schw. Reg. Rep. 24, p. 99.
Leaves of *Sarracenia purpurea.*

2523. **S. sparsa,** Amd. Reg. Rep 28, p. 81.
Leaves of *Tilia* and *Betula.*

2524. **S. oblivia,** Cke. Reg. Rep 28, p. 81.
Leaves of *Rhododendron maximum.*

2525. **S. carpinea,** Fr. Reg. Rep. 28, p. 81.
Leaves of *Carpinus.*

2526. **S. indistincta,** Pk. Reg. Rep. 28, p. 81.
Fronds of *Pteris aquilina.*

2527. **S. Impatientis,** P. & C. Reg. Rep. 30, p. 67.
Leaves of *Impatiens fulva.*

853. VENTURIA, DeNot.

2528. **V. Clintonii,** Pk. Reg. Rep. 28, p. 82.
Leaves of *Cornus circinata.*

854. STIGMATEA, Fr.

2529. **S. Robertiani,** Fr. (*Dothidea Robertiani,* Fr. Reg. Rep. 23, p. 65.)
Living leaves of *Geranium Robertianum.*

855. MICROTHYRIUM, Desm.

2530. **M. Smilacis,** DeNot. Reg. Rep. 24, p, 85.
Dead stems of *Smilax.*

856. DICHÆNA, Fr.

2531. **D. faginea,** Fr. Reg. Rep. 22, p. 96.
Bark of living beech.

2532. **D. quercina,** Fr.
Bark of living oak.

## Order 117. Characeæ.

857. CHARA, L.

2533. **C. fragilis,** Desv. (*C. fœtida* of authors.)

2534. **C. coronata,** Ziz.

858. NITELLA, Agardh.

2535. **N. flexilis,** Agardh.

## Order 118. Algæ.

### Sub-Order 1. RHODOPHYCEÆ.

859. BATRACHOSPERMUM, Roth.

2536. **B. moniliforme,** Roth.
Rapids of Niagara River, on the Canadian side, opposite Buffalo, June, 1882.

860. CHANTRANSIA, Fries.

2537. **C. violacea,** Kuetz. (*C. expansa*, H. C. Wood.)
Aurora, Erie Co. *Wolle.* Gowanda, Erie Co.

861. PORPHYRIDIUM, Naeg.

2538. **P. cruentum,** Naeg.
Johnson's Park, and on earth in a garden at No 83, Mohawk St., Buffalo. *J. W. Ward.*

SUB-ORDER 2. CHLOROPHYLLOPHYCEÆ,

862. APHANOCHÆTE, Braun.

2539. **A. repens,** A. Braun.
Abundant on *Œdogonium*, from the sulphur spring on the margin of Scajauquady's Creek, near Buffalo Park, Sept., 1882.

863. COLEOCHÆTE, Bréb.

2540. **C. scutata,** Bréb.
Abundant on *Typha*, *Anacharis*, etc.

864. CHÆTOPHORA, Schrank.

2541. **C. endiviæfolia,** Agardh.

2542. **C. elegans,** Agardh.

865. DRAPARNALDIA, Agardh.

2543. **D. plumosa,** Agardh.
Aurora, Erie Co. *Wolle.*

2544. **D. glomerata,** Agardh.
Alden, Erie Co.

866. STIGEOCLONIUM, Kuetz.

2545. **S. tenue,** Rabenh.
Aurora, Erie Co. *Wolle.*

2546. **S.** ————
Niagara River, West Seneca, Erie Co., and elsewhere.

867. CHROOLEPUS, Agardh.

2547 **C. aureum,** Kuetz.
Niagara Falls; Caledonia, Liv. Co. Miss *Mary L. Wilson.*

868. ULOTHRIX, Kuetz.

2548. **U. rivularis,** Kuetz.
Abundant in a spring in the grounds of the State Lunatic Asylum, Buffalo, Sept., 1882.

2549. **U. subtilis,** Kuetz.
Aurora, Erie Co. *Wolle.*

869. HORMISCIA, Aresch.

2550. **H. zonata,** Aresch.

870. BULBOCHÆTE, Agardh.

2551. **B. intermedia,** DeBary.
Gowanda, Erie Co.; Fort Erie, Ont.

871. ŒDOGONIUM, Link.

2552. **Œ. stagnata,** Wittr.
Scajauquady's Creek, Buffalo. Determined by *Wolle.*

2553. **Œ. pachydermum,** Wittr.
Scajauquady's Creek, Buffalo. Determined by *Wolle.*

872. CLADOPHORA, Kuetz.

2554. **C. canalicularis,** Roth.
Three Sisters Islands, Niagara Falls. *Wolle.*

2555. **C. glomerata,** Kuetz.
Everywhere in Niagara River where the current is strong.

2556. **C. fracta,** Dillw.
*Wolle.*

873. RHIZOCLONIUM, Kuetz.

2557. **R. Horsfordii,** Wolle.
Aurora, Erie Co. *F. H. Horsford.* (*Bull. Torr. Bot. Club, Vol. IX. p.* 26.)

874. CONFERVA, L.

2558. **C. bombycina,** Agardh.

875. VAUCHERIA, DC.

2559. **V. cæspitosa,** Agardh.

2560. **V. sessilis,** DC.
Aurora, Erie Co. *Woll*

876. HYDROGASTRUM, Desv.

2561. **H. Wallrothii,** Kuetz.
Damp earth, Buffalo. *Wolle.*

2562. **H. granulatum,** Desv.
Exposed soil, Buffalo. *Wolle.*

877. PLEUROCARPUS, A. Braun.

2563. **P. mirabilis,** A. Braun.

878. ZYGOGONIUM, Kuetz.

2564. **Z. anomalum,** Kuetz.

879. SPIROGYRA. Link.

2565. **S. crassa,** Kuetz.
Abundant at Squaw Island, Niagara River.

2566. **S. nitida,** Link.
*Wolle.*

2567. **S. elongata,** Kuetz.
Port Colborne, Ont., July 1, 1882.

2568. **S. quinina,** Kuetz.

2569. **S. longata,** Kuetz.
*Wolle.*

880. STAUROASTRUM, Meyen.

2570. **S. oxyacanthum,** Archer.

2571. **S. gracile,** Ralfs.

2572. **S. margaritaceum,** Menegh.

2573. **S. dejectum,** Bréb.

881. DIDYMOPRIUM, Kuetz.

2574. **D. Grevillii,** Kuetz.

882. PLEUROTÆNIUM, Naeg.

2575. **P. Baculum,** DeBary.

883. CLOSTERIUM, Nitzsch.

2576. **C. parvulum,** Naeg.

2577. **C. Dianæ,** Ehrb.

2578. **C. Lunula,** Ehrb.

884. PALMOGLŒA, Kuetz.

2579. **P.** ————, (?)

Gowanda, Erie Co., June, 1882.

885. VOLVOX, L.

2580. **V. Globator,** L.

Everywhere about Buffalo, in ponds and ditches. Especially abundant in autumn with *Chara fragilis*.

886. PEDIASTRUM, Meyen.

2581. **P. Boryanum,** Menegh.

887. HYDRODICTYON, Roth.

2582. **H. utriculatum,** Roth.

Immense quantities are in Niagara River, at the head of Squaw Island, and Scajauquady's Creek, in autumn.

888. SCENEDESMUS, Meyen.

2583. **S. quadricauda,** Bréb.

2584. **S. acutus,** Meyen., var **obliquus,** Rabenh.

2585. **S. obtusus,** Meyen.

Rare. On wall of old mill, Black Rock harbor, North Buffalo.

889. DICTYOSPHÆRIUM, Naeg.

2586. **D. pulchellum,** H. C. Wood.

In a swamp at Springville, Erie Co., June.

890. HORMOSPORA, Bréb.

2587. **H. geminella,** Wolle.

In pools of exposed water, Buffalo. *Wolle.* (*Bull. Torr. Bot. Club, Vol. VI, p.* 140.)

891. RHAPHIDIUM, Kuetz.

2588. **R. polymorphum,** Fresen.

In the Buffalo City water supply, and elsewhere.

892. TETRASPORA, Link.

2589. **T. lubrica,** Agardh.

Rivers and ponds in early summer. Abundant.

893. PALMELLA, Lyngb.

2590. **P. miniata,** Leibl.

Wet earth at Black Rock, (North Buffalo), June, 1882.

2591. **P. hyalina,** Bréb.
Abundant in ditches in April and May.

894. PLEUROCOCCUS, Menegh.

2592. **P. roseo-persicinus,** Rabenh.
Especially abundant on the submerged parts of water-plantain, (*Alisma Plantago.*)

2593. **P. miniatus,** Naeg.

2594. **P. vulgaris,** Menegh.

895. CYLINDROCAPSA, Reinsch.

2595. **C. geminata,** Wolle.
*Wolle.*

SUB-ORDER 3. PHYCOCHROMOPHYCEÆ.

896. SCHIZOSIPHON, Kuetz.

2596. **S. intertentus,** Grun.
Determined by *Wolle.*

2597. **S. crustiformis,** Naeg.
Determined by *Wolle.*

2598. **S. Cataractæ,** Naeg.
Niagara Falls, *Wolle.*

897. SYMPHYOSIPHON, Kuetz.

2599. **S. incrustans,** Kuetz.
On rocks exposed to the spray of Niagara Falls. *Wolle.*

2600. **S. Contarenii,** Kuetz.
In same situations with the last. *Wolle.*

898. ARTHROSIPHON Kuetz.

2601. **A. alatus,** Rabenh. (*Petalonema alatum,* Berk.)
"On dripping rocks under Biddle stair-case, Niagara Falls." *Harvey.*

899. DIPLOCOLON, Naeg.

2602. **D. Heppii,** Naeg.
Niagara Falls, *Wolle.*

900. SCYTONEMA, Agardh

2603. **S. chrysochlorum,** Kuetz.
Shaded rocks, Niagara Falls, *Wolle.*

2604. **S. Hagetschweilerii,** Rabenh.
Forming a dark brown coating on wet rocks, Niagara Falls. "Probably Wood's *S. cataracta.*" *Wolle.*

2605. **S. Austinii,** H. C. Wood. (?)
Wet rocks, Niagara Falls.

2606. **S. Cataractæ,** H. C. Wood.
"This species grows abundantly in Niagara River on the rocks below the great cataract." *H. C. Wood.*

901. MASTIGONEMA, Schwabe.

2607. **M. Orsinianum,** Kuetz.
"On rocks in rapids of Niagara River." *Wolle.*

2608. **M. cæspitosum,** Kuetz.

2609 **M. plana,** Rabenh.
Wet rocks at Portage, Genesee River. *Wolle.*

902. ZONOTRICHIA, J. Agardh.

2610. **Z. mollis,** H. C. Wood
Cave of the winds, Niagara Falls. *H. C. Wood.*

2611. **Z. parcezonata,** H C. Wood.
Cave of the winds, Niagara Falls. *H C. Wood.*

2612. **Z. chrysocoma,** Rabenh.
Moist earth, Niagara Falls. *Wolle. Wolle* suggests that Wood's *Z. parcezonata* is probably only the young growth of this species. (*Bull Torr. Bot. Club, Vol. VI, p.* 138.)

903 RIVULARIA, Agardh.

2613 **R. cartilaginea,** H. C. Wood.
Niagara River in autumn, on various aquatic plants.

904. GLOIOTRICHIA, J. Agardh.

2614. **G. incrustata,** H. C. Wood.
Scajauquady's Creek, Buffalo, Sept., 1882: its abundant, gelatinous spheres attached to various plants.

2615. **G. gigantea,** Trent.

2616. **G. natans,** Thuret.
"Fronds attached to water plants in pools, Buffalo." *Wolle.*

905. CYLINDROSPERMUM, Kuetz.

2617. **C. flexuosum,** Rabenh.
In a pond at "The Front," Buffalo, Sept., 1882.

2618. **C. comatum**, H. C. Wood.

Niagara Falls. "Growing upon the ground in the marshes which border the river just above the Canadian Falls." *H. C. Wood.*

906. ANABÆNA, Bory.

2619. **A. intricata**, Kuetz.

*Wolle.*

2620. **A. Flos-aquæ**, Kuetz.

Squaw Island, Niagara River.

2621. **A. gigantea**, H. C. Wood.

Chautauqua Lake, Aug. 1879. This *Alga* had been driven by the winds into sheltered places along the south-western shore. The immense quantities of the plant gave the water, for several feet from the shore, the color of "pea soup," as mentioned by *H. C. Wood*, of the same plant in the brick yards at Philadelphia, where he discovered it.

907. NOSTOC, Vauch.

2622. **N. comminutum**, Kuetz.

In a pond at "The Front," Buffalo, May, 1882; Niagara City, Ont., June, 1882, and elsewhere.

2623. **N. commune**, Vauch.

Niagara Falls, Oct. 28, 1882. Abundant on moist ground, rocks, etc. Our plant agrees well with Rabenhorst's description except in the distance between the cells:—ours having the cells not loosely, but closely connected. *H. C. Wood* points out the same variation.

2624. **N. cæruleum**, Lyngb.

In ponds at "The Front," Buffalo, May and June.

2625. **N. sphæricum**, Vauch.

908. PHORMIDIUM, Kuetz.

2626. **P. vulgare**, Kuetz.

Aurora, Erie Co., *Wolle.*

909. OSCILLARIA, Bosc.

2627. **O. Imperator**, H. C. Wood.

Buffalo River, floating in dark, olive-colored masses, Sept, 1882.

2628. **O. neglecta**, H. C. Wood.

Trout pond at Gowanda, June, 1882. At various dates in Niagara River, forming colored strata.

2629. **O. Frœlichii,** Kuetz.
In thin, green strata, Black Rock harbor (North Buffalo), and elsewhere ; usually with *O. limosa.* Filaments often twisted together like the strands of a rope.

2630. **O. nigra,** Vauch.
Appearing in vast quantities in the ship canal at Black Rock, (North Buffalo), in June ; floating and attached.

2631. **O. limosa,** Agardh.
Everywhere in thin green strata.

910. BEGGIATOA, Trevisan.

2632. **B. nivea,** Rabenh.
Sulphur Spring, Niagara Falls. *Wolle.*

911. HYPHEOTHRIX, Kuetz.

2633. **H. æruginea,** Wolle.

912. SYNECHOCOCCUS, Naeg.

2634. **S. elongatus,** Naeg.
Aurora, Erie Co., *Wolle.*

913. MERISMOPEDIA, Meyen.

2635. **M. nova,** H. C. Wood.
Buffalo City water supply. Abundant in a spring by the road side at Sawyer's Creek, Niagara Co., Sept. 1, 1881.

914. GLŒOCAPSA, Kuetz.

2636. **G. sparsa,** H. C. Wood.
Wet rocks at Niagara Falls, Oct. 28, 1882.

2637. **G. janthina,** Naeg.
Cliffs, Niagara Falls. *Wolle.*

2638. **G. æruginosa,** Kuetz.
Niagara Falls.

915. CHROOCOCCUS, Naeg.

2639. **C. multicoloratus,** H. C. Wood.
Wet earth along the margin of Scajauquady's Creek, with other *Algæ.* Our plant agrees well with Wood's description and figures, except only that the colors observed were the usual blue-green and yellowish.

2640. **C. rufescens,** Naeg.
Niagara Falls. *Wolle.*

SUB-ORDER 4. DIATOMOPHYCEÆ.

916. CLYTOTELLA, Kuetz.

2641. **C. operculata**, Kuetz.
Buffalo City water supply.

2642. **C. Americana**, J. W. Ward, *incd.*
Buffalo. *J. W. Ward.*

917. ACTINOCYCLUS, Ehrb.

2643. **A. Niagaræ**, H. L. Smith.
Buffalo City water supply.

918. STEPHANODISCUS, Ehrb.

2644. **S. Niagaræ**, Ehrb.
Buffalo City water supply.

919. MELOSIRA, Agardh.

2645. **M. Crotenensis**, H.
Buffalo City water supply.

2646. **M. varians**, Agardh.
Aurora, Erie Co. *Wolle.*

920. SURIRELLA, Turpin.

2647. **S. linearis**, Sm.
Buffalo. *J. W. Ward.*

2648. **S. biseriata**, Bréb.
Hamburg, Erie Co. *E. S. Nott.*

2649. **S. angusta**, Kuetz.
Buffalo. *J. W. Ward.*

2650. **S. splendida**, Kuetz.
Buffalo City water supply.

2651. **S. turgida**, Sm.
Buffalo City water supply.

2652. **S. ovalis**, Bréb.
Buffalo City water supply.

2653. **S. ovata**, Kuetz.
Buffalo City water supply.

2654. **S. minuta**, Bréb.
Buffalo. *J. W. Ward.*

921. CYMATOPLEURA, Sm

2655. **C. elliptica**, Sm.
Buffalo City water supply.

2656. **C. Solea**, Sm.
Buffalo City water supply.

922. EPITHEMIA, Bréb.

2657. **E. turgida**, Kuetz.
Buffalo. *J. W. Ward.*

2658. **E. Sorex**, Kuetz.
Buffalo. *J. W. Ward.*

2659. **E. ventricosa**, Kuetz.
Buffalo. *J. W. Ward.*

2660. **E. gibba**, Kuetz.
Buffalo. *J. W. Ward.*

2661. **E. Argus**, Kuetz.
Buffalo. Rare. *J. W. Ward.*

2662. var **alpestris**, Rabenh. (*E. alpestris*, Sm.)
On bark of trees, Buffalo. *J. W. Ward.*

923. EUNOTIA, Ehrb.

2663. **E. Arcus**, Kuetz. (*Himantidium Arcus*, Ehrb.)
Aurora, Erie Co. *Wolle.*

2664. **E.** *sp.*
Buffalo. *J. W. Ward.*

924. CYMBELLA, Agardh.

2665. **C. cuspidata**, Kuetz.
Buffalo City water supply.

2666. **C. maculata**, Kuetz.
Buffalo. *J. W. Ward.* Hamburg, Erie Co. *E. S. Nott.*

2667. **C. ventricosa**, Agardh.
Buffalo. *J. W. Ward.*

2668. **C. lunata**, Sm.
Buffalo. *J. W. Ward.*

925. COCCONEMA, Ehrb.

2669. **C. lanceolata**, Ehrb. (?)
Hamburg, Erie Co. *E. S. Nott.*

2670. **C. cymbidiformis,** Ehrb., (?)
Buffalo. *J. W. Ward.*

2671. **C. gibba,** Ehrb.
Buffalo. *J. W. Ward.*

2672. **C. parva,** Sm.
Buffalo. *J. W. Ward.*

926. ENCYONEMA, Kuetz.

2673. **E. prostratum,** Ralfs.
Hamburg, Erie Co. *E. S. Nott.*

927. AMPHORA, Ehrb.

2674. **A. ovalis,** Kuetz.
Buffalo City water supply.

2675. **A. gracilis,** Ehrb.
Buffalo. *J. W. Ward.*

928. COCCONEIS, Ehrb.

2676. **C. Pediculus,** Ehrb.
Buffalo.

2677. **C. rhombea,** Ehrb.
Buffalo. *J. W. Ward.*

2678. **C. striolata,** Rabenh.

929. RHOICOSPHENIA, Grun.

2679. **R. curvata,** Grun. (*Gomphonema curvatum*, Kuetz.)

930. ODONTIDIUM, Kuetz.

2680. **O. hyemale,** Kuetz.
Aurora, Erie Co. *Wolle.*

931. FRAGILLARIA, Agardh.

2681. **F. capucina,** Desmaz.
Buffalo City water supply.

2682. **F. virescens,** Ralfs.
Buffalo. *J. W. Ward.*

2683. **F. Harrisonii,** Sm. (*Odontidium Harrisonii*, Sm.)
Hamburg, Erie Co. *E. S. Nott.*

2684. **F. Crotonensis,** Bailey.
Buffalo City water supply.

### 932. SYNEDRA, Ehrb.

2685. **S. angustata,** Kuetz.
Buffalo. *J. W. Ward.*

2686. **S. linearis,** Ehrb.
Buffalo. *J. W. Ward.*

2687. **S. pulchella,** Kuetz.
Buffalo. *J. W. Ward.*

2688. var. **fasciculata,** Rabenh. (*S. fasciculata*, Sm.)
Buffalo. *J. W. Ward.*

2689. **S. Vaucheriæ,** Kuetz.
Hamburg, Erie Co. *E. S. Nott.*

2690. **S. Ulna,** Ehrb.
Buffalo City water supply.

2691. **S. capitata,** Ehrb.
Buffalo City water supply.

2692. **S. radians,** Kuetz.
Hamburg, Erie Co. *E. S. Nott.*

### 933. ASTERIONELLA, Hassall.

2693. **A. formosa,** Hassall.
Buffalo City Water supply.

### 934. AMPHIPLEURA, Kuetz.

2694. **A. pellucida,** Kuetz.
Hamburg, Erie Co. *E. S. Nott.*

### 935. NITZSCHIA, Hassall.

2695. **N. sigmoidea,** Sm.
Buffalo. *J. W. Ward.* Hamburg, Erie Co. *E. S. Nott.*

2696. **N. curvula,** Ehrb.
Hamburg, Erie Co. *E. S. Nott.*

2697. **N. tenuis,** Sm.
Buffalo. *J. W. Ward.*

2698. **N. minutissima,** Grun. (?)
Buffalo. *J. W. Ward.*

### 936. NITZSCHIELLA, Rabenh.

2699. **N. acicularis,** Rabenh. (*Nitzschia acicularis*, Sm.)
Buffalo City water supply.

937. NAVICULA, Bory.

2700. **N. cuspidata,** Kuetz.
Buffalo. *J. W. Ward.* Hamburg, Erie Co. *E. S. Nott.*

2701. **N. rhomboides,** Ehrb.
Hamburg, Erie Co. *E. S. Nott.*

2702. **N. pygmæa,** Kuetz. (*N. minutula,* Sm.)
Buffalo. *J. W. Ward.*

2703. **N. minutissima,** Grun.
Buffalo. *J. W. Ward.*

2704. **N. Amphisbæna,** Bory.
Buffalo. *J. W. Ward.*

2705. **N. rhyncocephala,** Kuetz.
Buffalo. *J. W. Ward.*

2706. **N. ambigua,** Ehrb.
Buffalo. *J. W. Ward.*

2707. **N. firma,** Kuetz. (?)
Buffalo. *J. W. Ward.*

2708. **N. cryptocephala,** Kuetz.
Buffalo. *J. W. Ward.* Hamburg, Erie Co. *E. S. Nott.*

2709. **N. Hebes,** Ralfs. (*N. obtusa,* Sm.)
Buffalo. *J. W. Ward*

2710. **N. gracillima,** Pritch , var. **tenuis,** Rabenh. (*Pinnularia tenuis,* Greg )

2711. **N.** *sp.* (?)
Buffalo. *J. W. Ward.*

938. PINNULARIA, Ehrb.

2712. **P. major,** Rabenh.
Buffalo. *J. W. Ward.*

2713. **P. viridis,** Rabenh.
Buffalo. *J. W. Ward.*

2714 **P. gibba,** Ehrb.
Buffalo. *J. W. Ward.*

2715. **P. radiosa,** Rabenh.
Buffalo. *J. W. Ward.*

2716. **P. nobilis,**
Hamburg, Erie Co. *E. S. Nott.*

2717. var. ————
Hamburg, Erie Co. *E. S. Nott.*

2718. **P. oblonga,** Rabenh.
Buffalo. *J. W. Ward.*

939. FRUSTULIA, Agardh.

2719. **F. membranacea.**

2720. **F. minuta.**

940. PLEUROSIGMA, Sm.

2721. **P. attenuatum,** Sm.
Buffalo. *J. W. Ward.*

2722. **P. acuminatum,** Kuetz., var. **lacustre,** Rabenh
(*P. lacustre,* Sm.)
Buffalo. *J. W. Ward.*

2723. **P. Spencerii,** Sm.
Hamburg, Erie Co. *E. S. Nott.*

2724. **P.** *sp.*
Buffalo City water supply.

941. STAURONEIS, Ehrb.

2725. **S. Phœnicenteron,** Ehrb.
Hamburg, Erie Co. *E. S. Nott.*

2726. **S. gracilis,** Ehrb.
Buffalo. *J. W. Ward.*

2727. **S. anceps,** Ehrb.
Buffalo. *J. W. Ward.*

942. AMPHIPRORA, Ehrb.

2728. **A. ornata,** Bailey.
Buffalo City water supply.

943. GOMPHONEMA, Agardh.

2729. **G. dichotomum,** Kuetz.

2730. **G. capitatum,** Ehrb.

2731. **G. geminatum,** Agardh.
Hamburg, Erie Co. *E. S. Nott.*

2732. **G. acuminatum,** Ehrb.

2733. **G. olivaceum,** Kuetz.
Hamburg, Erie Co. *E. S. Nott.*

2734. **G. Herculaneum,** Ehrb.
Niagara. Rabenhorst's "*Flora Eur. Alg.*"

944. MERIDION, Agardh.

2735. **M. circulare,** Agardh.
Hamburg, Erie Co. *E. S. Nott.*

2736. **M. constrictum,** Ralfs.
Hamburgh, Erie Co. *E. S. Nott.*

945. TABELLARIA, Ehrb.

2737. **T. fenestrata,** Kuetz.
Buffalo City water supply.

946. RHIZOSOLENIA, Ehrb.

2738. **R. Eriensis,** H. L. Smith.
Buffalo City water supply.

2739. **R. gracilis,** H. L. Smith.
Buffalo City water supply.

# Tabular View of the Flora of Buffalo and its Vicinity.

| NAMES OF ORDERS. | No. of Genera. | No. of Species and Varieties |
|---|---|---|
| 1. Ranunculaceæ, | 15 | 36 |
| 2. Magnoliaceæ, | 2 | 2 |
| 3. Anonaceæ, | 1 | 1 |
| 4. Menispermaceæ, | 1 | 1 |
| 5. Berberidaceæ, | 4 | 4 |
| 6. Nymphæaceæ, | 3 | 3 |
| 7. Sarraceniaceæ, | 1 | 1 |
| 8. Papaveraceæ, | 4 | 5 |
| 9. Fumariaceæ, | 4 | 6 |
| 10. Cruciferæ, | 16 | 36 |
| 11. Capparidaceæ, | 2 | 2 |
| 12. Resedaceæ, | 1 | 1 |
| 13. Violaceæ, | 2 | 14 |
| 14. Cistaceæ, | 2 | 3 |
| 15. Droseraceæ, | 1 | 1 |
| 16. Hypericaceæ, | 2 | 6 |
| 17. Caryophyllaceæ, | 10 | 23 |
| 18. Portulacaceæ, | 2 | 4 |
| 19. Malvaceæ, | 5 | 9 |
| 20. Tiliaceæ, | 1 | 1 |
| 21. Linaceæ, | 1 | 3 |
| 22 Geraniaceæ, | 4 | 12 |
| 23. Rutaceæ, | 2 | 2 |
| 24. Simarubaceæ, | 1 | 1 |
| 25. Anacardiaceæ, | 1 | 5 |
| 26. Vitaceæ, | 2 | 4 |
| 27. Rhamnaceæ, | 2 | 2 |

| | NAMES OF ORDERS. | No. of Genera. | No. of Species and Varieties |
|---|---|---|---|
| 28. | Celastraceæ, | 2 | 4 |
| 29. | Sapindaceæ, | 2 | 7 |
| 30. | Polygalaceæ, | 1 | 3 |
| 31. | Leguminosæ, | 17 | 45 |
| 32. | Rosaceæ, | 15 | 52 |
| 33. | Saxifragaceæ, | 6 | 13 |
| 34. | Crassulaceæ, | 2 | 3 |
| 35. | Hamamelaceæ, | 1 | 1 |
| 36. | Halorageæ, | 2 | 4 |
| 37. | Onagraceæ, | 5 | 11 |
| 38. | Lythraceæ, | 2 | 2 |
| 39. | Cucurbitaceæ, | 2 | 2 |
| 40. | Umbelliferæ, | 21 | 26 |
| 41. | Araliaceæ, | 1 | 5 |
| 42. | Cornaceæ, | 2 | 8 |
| 43. | Caprifoliaceæ, | 7 | 21 |
| 44. | Rubiaceæ, | 4 | 13 |
| 45. | Valerianaceæ, | 2 | 4 |
| 46. | Dipsaceæ, | 1 | 1 |
| 47. | Compositæ, | 51 | 143 |
| 48. | Lobeliaceæ, | 1 | 4 |
| 49. | Campanulaceæ, | 2 | 6 |
| 50. | Ericaceæ, | 17 | 29 |
| 51. | Aquifoliaceæ, | 2 | 3 |
| 52. | Plantaginaceæ, | 1 | 3 |
| 53. | Primulaceæ, | 5 | 11 |
| 54. | Lentibulaceæ, | 2 | 4 |
| 55. | Bignoniaceæ, | 1 | 1 |
| 56. | Orobanchaceæ, | 3 | 3 |
| 57. | Scrophulariaceæ, | 15 | 30 |
| 58. | Acanthaceæ, | 1 | 1 |
| 59. | Verbenaceæ, | 2 | 3 |
| 60. | Labiatæ, (Menthaceæ), | 25 | 39 |
| 61. | Borraginaceæ, | 9 | 16 |
| 62. | Hydrophyllaceæ, | 1 | 2 |
| 63. | Polemoniaceæ, | 2 | 6 |
| 64. | Convolvulaceæ, | 3 | 8 |
| 65. | Solanaceæ, | 8 | 13 |
| 66. | Gentianiaceæ, | 3 | 8 |
| 67. | Apocynaceæ, | 2 | 3 |

| NAMES OF ORDERS. | No. of Genera. | No. of Species and Varieties |
|---|---|---|
| 68. Asclepiadaceæ, | 2 | 7 |
| 69. Oleaceæ, | 2 | 5 |
| 70. Aristolochiaceæ, | 1 | 1 |
| 71. Phytolaccaceæ, | 1 | 1 |
| 72. Chenopodiaceæ, | 4 | 10 |
| 73. Amarantaceæ, | 1 | 5 |
| 74. Polygonaceæ, | 3 | 24 |
| 75. Lauraceæ, | 2 | 2 |
| 76. Thymelaceæ, | 1 | 1 |
| 77. Elægnaceæ, | 1 | 1 |
| 78. Santalaceæ, | 1 | 2 |
| 79. Saururaceæ, | 1 | 1 |
| 80. Ceratophyllaceæ, | 1 | 1 |
| 81. Callitrichaceæ, | 1 | 1 |
| 82. Euphorbiaceæ, | 2 | 11 |
| 83. Urticaceæ, | 8 | 12 |
| 84. Platanaceæ, | 1 | 1 |
| 85. Juglandaceæ, | 2 | 6 |
| 86. Cupuliferæ, | 6 | 15 |
| 87 Myricaceæ, | 2 | 3 |
| 88. Betulaceæ, | 2 | 6 |
| 89. Salicaceæ. | 2 | 22 |
| 90. Coniferæ, | 8 | 11 |
| 91. Araceæ, | 5 | 6 |
| 92. Lemnaceæ, | 3 | 4 |
| 93. Typhaceæ, | 2 | 4 |
| 94. Naiadaceæ, | 3 | 14 |
| 95. Alismaceæ, | 4 | 6 |
| 96. Hydrocharidaceæ, | 2 | 2 |
| 97. Orchidaceæ, | 14 | 34 |
| 98. Iridaceæ, | 3 | 3 |
| 99. Dioscoreaceæ, | 1 | 1 |
| 100. Smilaceæ, | 1 | 3 |
| 101. Liliaceæ, | 18 | 31 |
| 102. Juncaceæ, | 2 | 15 |
| 103. Pontederiaceæ, | 2 | 2 |
| 104. Eriocaulonaceæ, | 1 | 1 |
| 105. Cyperaceæ, | 9 | 105 |
| 106. Gramineæ, | 39 | 88 |
| 107. Equisetaceæ, | 1 | 7 |

| | NAMES OF ORDERS. | No. of Genera. | No. of Species and Varieties |
|---|---|---|---|
| 108. | Ophioglossaceæ, | 2 | 5 |
| 109. | Filices, | 14 | 32 |
| 110. | Lycopodiaceæ, | 1 | 5 |
| 111. | Selaginellaceæ, | 2 | 3 |
| 112. | Salviniaceæ, | 1 | 1 |
| 113. | Musci, | 47 | 165 |
| 114. | Hepaticæ, | 19 | 24 |
| 115. | Lichenes, | 45 | 204 |
| 116. | Fungi, | 217 | 869 |
| 117. | Characeæ, | 2 | 3 |
| 118. | Algæ, | 88 | 204 |
| | Total, | 946 | 2739 |

## Supplement.

That portion of the Catalogue which includes the names of our phænogamous plants was published early in the summer of 1882. Circumstances, for which the compiler and his associates in charge of its publication are in no degree responsible, have operated to prevent the appearance of the remainder of the work until the present time. This delay, however, has proved to be not altogether without compensations and advantages. By reason of it the opportunity has been given to bring the list much nearer completeness than otherwise would have been possible. Omissions, attributable to inadvertence or misunderstanding, have been supplied, doubts in respect to various questions have been settled, and the addition made of more than seventy-five phænogams which were then unknown as members of our Flora.

In fact, after the introduction to the Catalogue was in print, and whilst the list of phænogams was in the hands of the compositor, several species were, for the first time, detected within our territory, the names of which were at once assigned to their proper places in the list. Hence the discrepancy, (observed no doubt by many) between the number of the species of several genera, as stated in the introduction, and the number of the same as shown in the Catalogue itself. The preceding "Tabular View" has been designed to correct this discrepancy and display at a glance the numerical proportion which the species and genera of each family of our plants bears to our entire Flora.

The compiler has great pleasure in acknowledging the important kindness received by him from Judge Clinton, who, with no little labor, prepared and placed at his use a list of

such phænogams as he had found within our limits, but which had not been named in the Catalogue. They are now embraced in this Supplement. To the localities of some of the rarer and more interesting plants he also made a large and valuable contribution.

Probably the most interesting addition now made to our list of plants is of that remarkable orchid, *Epipactis Helleborine*, Irm., found within the limits of our city, in July, 1882 :—its second discovery in America. But, without doubt, the very large addition of adventives, detected near the cattle yards at East Buffalo (chiefly from the far west), will arrest the attention of botanists and excite their surprise. Among these aliens are many plants of especial interest.

In this connection it may be said that of the 1,295 species and varieties of phænogamous plants, now enumerated as belonging to Buffalo and its vicinity, 1,011 are indigenous to the soil, and 284 have been introduced, inadvertently or by design.

The names of two species, only, require to be dropped from the Catalogue, as having been improperly included :—*Campanula glomerata*, L., (for which an aberrant form of *C. rapunculoides*, L. had been taken), and *Melica mutica*, Walt. Both these species had been named, with great hesitation, as members of our Flora.

These and other errors, more or less important, will be found corrected in the following list : but those which have seemed unlikely to mislead the student have not been noticed. The names of all genera and species included in the Catalogue having numerals affixed to them, reference to errors is made by such numbers rather than by page and line:— the more common, but, in the present instance, the less convenient way.

During the year 1882, attempts were made, in the interests of botanical science, to introduce into the vicinity of Buffalo, by seed or otherwise, the following named plants :—

*Clematis verticillata*, DC.
*Diplotaxis tenuifolia*, DC.
*Anychia dichotoma*, Michx.
*Phlox paniculata*, L.
*Atriplex rosea*, L.
*Amarantus viridis*, L.

*Scleranthus annuus*, L.
*Epilobium hirsutum*, L.
*Diospyros Virginiana*, L.
*Plantago Virginica*, L.
*Dodecatheon, Meadia*, L
*Origanum vulgare*, L.
*Pinus rigida*, Miller.
*Naias Indica*, Braun.
*Anthericum liliastrum*, L.
*Tradescantia Virginica*, L.
*Aristida*, spec.
*Eleusine Indica*, Gaert.

It seems proper that the record of these attempts should here be made, so that in case these plants, or any of them, should thereby become established, the botanist of a future time may not make the mistake of supposing that we had overlooked them.

BUFFALO, July 1, 1883.

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## ADDITIONS.

**Clematis verticillaris,** DC.

Very rare. Portage, Wyom. Co. Discovered by Mrs. *M. B. Moody* and Miss *Belle Fish*, of the Buffalo Naturalists' Field Club, June, 1883. Two plants only.

**Thalictrum purpurascens,** L.

Within our territory: locality unrecorded. *Clinton.*

**Ranunculus aquatilis,** L., var. **stagnalis,** DC. (*R. divaricatus*, Schrank)

Pools along Niagara River, Canadian side, near Clifton, July, 1882.

**Ranunculus multifidus,** Pursh.

Port Colborne, Ont., July, 1882.

**Ranunculus Flammula,** L., var. **reptans,** Meyer.

Abundant on the shore of Grand Island, Niagara River, near Sour Spring Grove. *Clinton.*

**Hydrastis Canadensis,** L.

Indian Reservation, near Cattaraugus Creek, Brandt, Erie Co.

**Cimicifuga racemosa,** Nutt.

Gowanda, Erie Co., July, 1882.

**Nelumbium luteum,** Willd.

Mr. CHARLES E. SMITH, of Philadelphia, a very competent botanist, states to us, in a letter, that in passing from Montreal to Niagara, through Canada, he saw, in a number of sluggish streams crossed by the railroad, this remarkable plant in bloom. The fact, tending as it does to confirm Mr. *Cowell's* observation, deserves to be mentioned here.

ARGEMONE MEXICANA, L.

The large white-flowered variety at East Buffalo. 1882.

**Adlumia cirrhosa,** Raf.

In a wood near Port Colborne, Ont., June, 1882.

**Diclytra Cucullaria,** DC. × **D. Canadensis,** DC.

Hybrids of these species found on Goat Is., Niagara Falls, and at West Seneca, Erie Co , May, 1883.

**Cardamine pratensis,** L.

Abundant at Connewango, Catt. Co. *C. Linden.*

SISYMBRIUM THALIANA, Gay.

From its abundance and wide diffusion at Point Abino, Ont., it seems scarcely possible that this plant is not there indigenous.

**Sisymbrium canescens,** Nutt.

No doubt remains that the plant collected near Indian Falls was of this species.

CAMELINA SATIVA, Crantz.

Abundant on the Plains, Buffalo, and at Bergen, Gen. Co. 1882.

LEPIDIUM CAMPESTRE, R. Br.

The smooth form at Bergen, Gen. Co., 1883. Miss *Belle M. Ross.*

RAPHANUS SATIVUS, L.

Often spontaneous in gardens and escaping.

RESEDA ODORATA, L.

Spontaneous in gardens and escaping. *Clinton.*

**Ionidium concolor,** Benth. and Hook.

Near the center of Goat Is., Niagara Falls. *Clinton.*

**Viola sagittata,** Ait.

"At Jamestown, Chaut. Co.. and at Rochester, and must be in the district." *Clinton.*

**Viola pubescens,** Ait., var. **scabriuscula,** Torr. and Gray.

Common on Goat Is., Niagara Falls, and elsewhere.

**Hypericum Canadense,** L.

"Within our district." *Clinton.*

VACCARIA VULGARIS, Host.

Frequently springing up from the refuse of "bird seed."

MOLLUGO VERTICILLATA, L.

Plentiful at East Buffalo. 1882.

CALANDRINIA MENZIESII, Hook.

Well established in a garden in Buffalo, and likely to extend. 1882.

Sida spinosa, L.

East Buffalo, Sept., 1882.

**Rhus Toxicodendron,** L.

An upright form of little height, on Goat Is., Niagara Falls. 1883.

Vitis Labrusca, L.

Dr. *Engelmann*, in a letter, dated Oct. 15, 1882, expresses great doubt of this species being indigenous at Niagara Falls, or elsewhere in our territory. A careful re-examination of the ground makes it quite certain that he is right. But that the plant frequently springs up, spontaneously, near vineyards in our vicinity is a matter of frequent observation.

**Vitis cordifolia,** Lam., var. **riparia,** Gray.

This variety, regarded by Dr. *Engelmann* as a distinct species, (*V. riparia*, Michx.), is common at Niagara Falls and along the river. It also occurs at Point Abino, Ont. The typical *V. cordifolia* probably does not belong within our limits.

**Polygala incarnata,** L.

"Near Niagara Falls, *Hook.*" (Beck's "*Botany of the U. S.*," p. 42.) Not seen by us.

**Polygala ambigua,** Nutt.

Reported by *J. F. Cowell* as growing at Portage, Wyom. Co. 1882.

**Polygala paucifolia,** Willd.

Reported by members of the Buffalo Naturalists' Field Club as found by them at Gowanda, Erie Co., May 19, 1883.

**Lespedeza Stuvei,** Nutt.

Near Buffalo. *Clinton.*

**Phaseolus diversifolius,** Pers.

Near the ruins of Fort Erie, Ont., Sept., 1883. *J. F. Cowell.*

**Cassia Chamæchrista,** L.

A few plants found, Sept. 1882, at East Buffalo.

Poterium Sanguisorba, L.

Well established at Point Abino, Ont. 1883.

Potentilla supina, L. (*P. paradoxa*, Nutt.)

At East Buffalo. 1882.

Potentilla recta, L.

At the wooded edge of a cultivated field near Clifton, Ont. 1882.

**Rosa setigera,** Michx.

Gowanda, Erie Co., July, 1883.

**Rosa nitida,** Willd.

Not uncommon.

ROSA, MICRANTHA, Smith.

Common at Ft. Erie, Ont., July, 1882.

PYRUS MALUS, L.

Spontaneous in old fields near Port Colborne, Ont. 1882.

PYRUS COMMUNIS, L.

Occurring with *P. Malus* near Port Colborne, Ont. 1882.

**Amelnachier Canadensis,** Torr. and Gray.

The varieties, *Botryapium*, Torr. and Gray, *oblongifolia*, Torr. and Gray, and perhaps others, are within our limits.

**Hydrangea arborescens,** L.

In "the Gulf," at Warsaw, Wyoming Co., July, 1883. Miss *Belle M. Ross.*

**Myriophyllum heterophyllum,** Michx.

In pools, near Niagara River, above Clifton, Ont., July, 1882.

**Sicyos angulatus,** L.

Point Abino, Ont.

**Berula angustifolia,** Koch.

Near Port Colborne, Ont., July, 1882.

**Eugeni abulbosa,** Nutt.

Alden, Erie Co. *J. F. Cowell.*

**Lonicera sempervirens,** Ait.

Near Fredonia, Chaut. Co. Probably introduced. *Henry R. Jones.*

**Galium trifidum,** L., var. **latifolium,** Gray.

In the district. *Clinton.*

**Aster corymbosus,** Ait.

Common among the hills of the ALLEGANY DISTRICT. *Clinton.*

**Aster macrophyllus,** L.

Inadvertently omitted from the list.

**Aster tenuifolius,** L.

Rare. Bergen, Gen. Co. *Clinton.*

**Aster acuminatus,** Michx.

Smoke's Creek, West Seneca, Erie Co., and at "Rock City," near Salamanca, Catt. Co. *Clinton.*

**Solidago Riddellii,** Frank.

Judge *Clinton* is of the opinion that he once found this species at Bergen, Gen. Co.

Ambrosia psylostachya, DC.

Reported by *J. F. Cowell* as having been found by him at East Buffalo.

**Xanthium Canadense,** Miller. (*X. strumarium*, L., of Gray's *Manual of Botany*). Bristly fruited. Not uncommon in waste places.

var. **echinatum,** (*X. strumarium*, var. *echinatum* of Gray's *Manual of Botany*). Hairy fruited. Shore of Lake Erie, Buffalo.

The true *X. strumarium*, L., a native of Europe, sparingly adventive at the East, has not been recognized here. It may be known by its fruit being entirely smooth.

Helianthus petiolaris, Nutt.

Adventive at East Buffalo. 1882.

Helianthus lenticularis, Dougl.

Adventive at East Buffalo. 1882.

Coreopsis aristosa, Michx.

Adventive at East Buffalo. 1882.

**Bidens cernua,** L.

Abundant near the shore of Niagara River, above Clifton, Ont , Oct., 1882.

Bidens bipinnata, L.

Adventive at East Buffalo. 1882.

Matricaria inodora, L. (?)

Springing up where "English Lawn Grass-seed" has been planted, but probably precarious. 1883.

Artemisia vulgaris, L.

Fort Erie, Ont. 1882.

**Lactuca Canadensis,** L., var. **integrifolia,** Torr. and Gray.

Inadvertently omitted from the list.

**Lactuca Canadensis,** L. var. **sanguinea,** Torr. and Gray.

Inadvertently omitted from the list.

Lactuca Scariola, L.

An adventive, well established at East Buffalo. 1882.

**Vaccinium macrocarpon,** Ait.

Point Abino, Ont. 1882.

**Plantago Rugellii,** Desc.

Here, as elsewhere, the species (erroneously called *P. Kamtschatica* in the Catalogue), proves to be very common and is often found growing with *P. major*, L.

Verbascum Lychnitis, L.

Very rare, and now probably extirpated. *Clinton.*

LINARIA CYMBALARIA, Mill.

A garden weed, often springing up from the refuse of "bird-seed." 1882.

**Gerardia pedicularia,** L.

Within our territory: station not given, but probably near Salamanca, Catt. Co. *Clinton.*

VERBENA ANGUSTIFOLIA, Michx.

Adventive at East Buffalo, Aug. 22, 1882.

VERBENA STRICTA, Vent.

Adventive at East Buffalo, Aug. 21, 1882.

VERBENA BRACTEOSA, Michx.

Adventive at East Buffalo, Aug. 7, 1882.

ORIGANUM VULGARE, L.

Within our territory: station not given. *Clinton.*

SATUREIA HORTENSIS, L.

The Plains, Buffalo. 1883. *J. F. Cowell.*

SALVIA GLUTINOSA, L.

Spontaneous in a garden in Buffalo and likely to spread.

**Monarda didyma,** L.

Gowanda, Erie Co., July 11, 1883.

HELIOTROPIUM EUROPÆUM, L.

A garden weed, Buffalo, and likely to continue.

IPOMŒA NIL, Roth.

Adventive at East Buffalo. 1882.

PHYSALIS PHILADELPHICA, Lam.

Not uncommon at East Buffalo. 1882.

DATURA STRAMONIUM, L.

Becoming common at East Buffalo. 1882.

**Frasera Carolinensis,** Walt.

In a woods about one and one-half miles west of Brock's Monument, Queenston, Ont. *Joseph Sturdy.*

**Gentiana Saponaria,** L.

Rare. A gentian, transplanted to a garden from the vicinity of Buffalo, proves to be of this species. Station unrecorded. 1882.

LIGUSTRUM VULGARE, L.

Well established near Clifton, Ont. 1882.

SYRINGA VULGARE, L.

Apparently spontaneous in one spot on Goat Is., Niagara Falls. 1883.

Chenopodium glaucum, L.

Now called *Blitum glaucum*, Watson. Common at East Buffalo, and at Lewiston, Niagara Co. 1882.

Chenopodium urbicum, L.

Common among the adventives at East Buffalo. 1882.

Chenopodium murale, L.

East Buffalo; Bath Is., Niagara Falls. *Clinton.*

Chenopodium ambrosioides, L.

The typical form sparingly at East Buffalo. 1882.

Amarantus blitoides, Watson.

Common at East Buffalo, 1882.

Amarantus: (Species undetermined, probably new.)

Resembling *A. blitoides* and growing with it; but more erect, and with narrower and longer leaves. Seeds smaller and differently margined. Stems whitish. 1882. Native in Colorado.

Amarantus spinosus, L.

At East Buffalo, but rare. 1882.

Acnida tamariscina, Gray. (?)

An *Acnida*, probably of this species, rather plentiful at East Buffalo. 1882.

Rheum Rhaponticum, L.

Spontaneous in neglected gardens and occasionally escaped. One large plant noticed in a woods on the Plains, Buffalo.

Daphne Mezereum, L.

One individual, perhaps planted, seen on Goat Is., Niagara Falls, growing beyond cultivated ground.

Euphorbia hypericifolia, L.

Now common at East Buffalo. 1882.

**Ulmus racemosa,** Thomas.

A newly felled tree, noticed near Fort Erie, Ont., April, 1883.

**Corylus Americana,** Walt.

Goat Is., Niagara Falls. *Clinton.*

**Populus balsamifera,** L., var. **candicans,** Gray.

A single tree noticed growing near the margin of Niagara River, on the Canadian side, below the Falls, far from cultivation. 1882.

**Potamogeton prælongus,** Wulfen.

The Rev. *Thomas Morong*, who has examined our specimens, doubts the correctness of the determination of the plant here intended.

**Potamogeton marinus,**

A little above Niagara Falls on the Canadian side. Rev. *Thomas Morong.*

**Habenaria fimbriata,** Gray.

One plant, with pure white flowers, deliciously fragrant, found at Point Abino, Ont. 1882.

**Epipactis Helleborine,** var. **viridens,** Irm.

Near Scajauquady's Creek, Buffalo :—The second known station of the species on the American continent. Here first found by Miss *Edna M. Porter*, July, 1882. Equivalent, according to GRAY, to *E. latifolia*. The plant answers exceedingly well to the following generic description of *Epipactis*, (transcribed from WATSON's *Botany of California*), except as noticed in our specific description below.

" EPIPACTIS, Haller.

" Perianth spreading, the sepals and petals nearly equal ; " lip free, deeply concave at the base, without callosities, nar- " rowly constricted and somewhat jointed in the middle, the " upper portion dilated and petaloid. Column short (equal- " ing the anther). Anther sessile behind the broad, truncate " stigma, on a slender jointed base, two celled, obtuse ; pol- " len masses coarsely granular, becoming attached above to " the gland capping the small rounded beak of the stigma. " Caulescent and leafy from creeping rootstocks ; flowers " few and pedicelled, rather large in our species, [*E. gigantea*, " Dougl.], with conspicuous bracts, divergent, and the " ovaries at right angles to the stem."

**E. Helleborine,** Irm. *Rootstocks not creeping.* Stems, one to several. Height from twelve to twenty-four inches. Leaves broadly ovate, two to three inches long, pointed, plicate. Raceme, before flowering, recurved, pubescent. *Flowers numerous* (*from thirty to fifty*), in color varying from a light, greenish yellow to a dark, dull purple. The spoon-shaped lip very dark, covered with a viscid secretion. *Ovaries, as they approach maturity, reflexed.* July and August.

In our station certainly indigenous. About 200 individuals were counted, all growing within the space of a few hundred feet along a northerly hillside, from five to thirty feet above the creek. The diversity of color, which the flowers on different plants display, indicates that the variety, *viridens*, has no stability of character.

**Cypripedium candidum,** Muhl.

Collins, Erie Co. *J. F. Cowell.*

**Sisyrinchium Bermudiana**, L.

Both varieties, **anceps**, Gray, and **mucronata**, Gray, within our district. *Clinton.*

**Erythronium Americanum**, Smith.

Two varieties, the second of which has pure yellow, almost unspotted flowers, have been pointed out by Mr. COWELL.

**Erythronium albidum**, Nutt.

The variety found at Lake Superior by Dr. ROBBINS is thought to have been detected by Mr. COWELL, at West Seneca, Erie Co.

**Allium cernuum**, Roth.

At West Seneca, Erie Co., and at Portage, Wyoming Co. *J. F. Cowell.*

**Juncus Canadensis**, J. Gay.

The four varieties, recognized by GRAY in his *Manual*, in our district. *Clinton.*

**Tradescantia Virginica**, L.

Introduced at West Seneca, Erie Co.

**Scirpus maritimus**, L.

Black Rock pier, Niagara River, Buffalo.

**Scirpus polyphyllus**, Vahl.

Shores of Niagara River, Buffalo.

**Carex cephalophora**, Muhl.

Within our territory, station unrecorded. *Clinton.*

**Carex chordorrhyza**, Ehrh.

Sphagnous swamp at Cassadaga, Chaut. Co. *Clinton.*

**Carex canescens**, L., var. **vitilis**, Gray.

Within our territory, station unrecorded. *Clinton.*

**Carex Deweyana**, Schw.

Within our territory, station unrecorded. *Clinton.*

**Carex scirpoides**, Schk.

Within our territory, station unrecorded. *Clinton.*

**Carex lagopodoides**, Schk.

Within our territory, station unrecorded. *Clinton.*

**Carex gracillima**, Schw.

Within our territory, station unrecorded. *Clinton.*

**Carex varia**, Muhl.

Within our territory, station unrecorded. *Clinton.*

ERAGROSTIS POÆOIDES, Beauv., var. MEGASTACHYA, Gray.

An adventive at East Buffalo, 1882.

ERAGROSTIS PURSHII, Schrad.

An adventive at East Buffalo, 1882.

LOLIUM TEMULENTUM, L.

Near Buffalo, but very rare. *Clinton.*

HORDEUM JUBATUM, L.

Becoming plentiful at East Buffalo, 1882.

**Phalaris arundinacea,** L.

The striped variety native at Hamburgh, Erie Co.

PANICUM AGROSTOIDES, Spreng.

An adventive at East Buffalo, 1882.

PANICUM PROLIFERUM, Lam.

An adventive at East Buffalo, 1882.

CENCHRUS TRIBULOIDES, L.

This unwelcome grass, within a very short time, has become thoroughly established along the track of the Niagara Falls Railroad, near the foot of York Street, in this city, as well as at East Buffalo, and Ft. Erie, Ont.

**Lecanora muralis,** (Schreb.) Schær.

The varieties, **parella,** Fr., and **rosella,** Tuck., omitted by inadvertence.

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## CORRECTIONS.

For *Cerastium boreale,* (p. 70, l. 6,) read *Stellaria borealis.*

7. **Anemone Hepatica,** L. Change "Genesee" to "Wyoming."

15. **Ranunculus alismæfolius,** Geyer. Change specific name and that of its author to "**ambigens,** Watson."

27. **Trollius laxus,** Salisb. Change "Genesee" to "Wyoming."

68. **Cardamine rotundifolia,** Michx. Prof. WATSON, in transferring this name to the plant, which TORREY called *C. rhomboidea,* DC., *var. purpurea,* seems to have fallen into an error. (See GRAY'S note in the *Botanical Gazette,* Vol. 4, p. 210). But that the plant itself is entitled to specific rank admits, in our opinion, of little doubt.

71. **Cardamine hirsuta,** L., var. **sylvatica.** Add "Gray" as the authority for the variety.

85. BRASSICA NIGRA, Gray. Substitute "Koch" for "Gray."

92. THLASPI ARVENSIS, L.. Change "ARVENSIS" to "ARVENSE."

For "ORDER 11. CAPSARIDACEÆ" read "ORDER 11. CAPPARIDACEÆ."

123. DIANTHUS ARMERIA. Add "L" to denote the authority.

145. **Mollugo verticillata,** L. The plant, being with us an adventive, the name should have appeared in small capitals. It is now referred by the later authorities, to the natural order, FICOIDEÆ.

202. **Polygala paucifolia,** Willd. After "Eighteen-mile Creek," add "Evans."

229. **Lespedeza violacea,** Pers., var. **sessiliflora.** Add as the authority for the variety, "Torr. and Gray."

244. **Baptisia tinctoria,** R. Br. After "Salamanca" add "Catt. Co."

256. **Poterium Canadense,** Benth. & Hook. For "Cattaraugus" read "Chautauqua."

275. **Rubus Dalibarda,** L. Add, as a synonym, "(*Dalibarda repens*, L.)" But see GRAY'S note in regard to the name of the plant in the *Botanical Gazette*, Vol. 3, p. 210.

290. **Cratægus oxycantha,** L. For "**oxycantha**" read "**Oxyacantha.**"

297. **Pyrus arbutifolia,** var. **melanocarpa,** Gray. After the specific name add "L.," to denote the authority.

316. **Hamamelis Virginica,** L. For the specific name "**Virginica**" substitute "**Virginiana.**" See WATSON'S *Bibliog. Index of N. A. Botany*, Vol. 1, p. 355.

324. **Epilobium palustre,** var. **lineare,** Gray. After the specific name insert "L.," to denote the authority.

346. **Selinum Canadense,** Michx. Remove "(*Conioselinum Canadensis*, Fischer.)" from its place after the generic name, "SELINUM," and insert the same after "S. Canadense, Michx." After the generic name add "L," to denote the authority.

355. **Chærophyllum sativum,** Lom. Change "Lom" to "Lam."

367. **Cornus Canadensis,** L. After "Cheektowaga," insert "Erie Co."

382. **Lonicera Tatarica.** Insert "L" after the specific name to denote the authority.

410. **Valeriana officinalis.** Insert "L" after the specific name to denote the authority.

420. **Tussilago Farfara,** L. This being at Buffalo a naturalized plant, the name should have appeared in small capitals.

429. **Aster ericoides,** L., var. **villosus.** After the name of the variety add "Gray" as the authority.

476. **Ambrosia trifida,** L. After the name of the variety, "**integrifolia,**" add "Torr. and Gray" as the authority.

499. **Dysodia chrysanthemoides,** Lag. This being with us an adventive plant, the name should have appeared in small capitals.

504. ACHILLEA MILLEFOLIUM, L. A native plant. The name therefore should *not* have appeared in small capitals.

518. **Gnaphalium uliginosum.** Add "L" to denote the authority.

549. **Prenanthes crepidina,** Michx. For "**crepidina**" read "**crepidinea.**"

564. CAMPANULA GLOMERATA, L. The plant here intended proves to be only a form of *C. rapunculoides*, L. The name must be erased.

600. **Plantago Kamschatica**, Cham. For "**Kamschatica**, Cham." read "**Rugelii**, Desc." See *Botanical Gazette*, Vol. 3, p. 95.

616. **Pinguicula vulgaris.** Insert "L" after the name to denote the authority. For "ORDER 60, MENTHACEÆ," read "ORDER 60, LABIATÆ."

693. **Ballota nigra**, L. An adventive plant. The name should have appeared in small capitals.

698. **Lithospermum officinale**, L. A naturalized plant. The name should have appeared in small capitals.

703. **Myosotis arvensis**, Hoffman. An adventive. The name should have appeared in small capitals.

709. **Heliophytum Indicum**, DC. An introduced plant. Therefore requiring small capitals.

718. **Ipomœa purpurea**, L. Introduced. Therefore requiring small capitals.

720. **Convolvulus arvensis**, L. An adventive. The name requires small capitals.

730. **Physalis viscosa**, L. For "**viscosa**, L." read "**Virginica**, Mill." See *Botanical Gazette*, Vol 2, p. 80.

735. HYOSCYAMUS NIGRUM, L. For "NIGRUM" read "NIGER."

776. AMARANTUS RETROFLEXUS, var. HYBRIDUS, Gray. Mr. WATSON is disposed to regard our plant as a variety of *A. chlorostachys*, Willd.

791. **Polygonum erectum**, L. Add, as a synonym, (*P. aviculare*, L., var. *erectum*, Roth.)

For 359. LINDERNA, Thunberg," read, "359. LINDERA, Thunberg." After "369. MORUS," insert "Tourn." to denote the authority for the name.

872. **Salix purpurea**, L. Introduced. The name therefore requires small capitals.

908. **Wolffia Columbiana**, Karsten. As the authority for *W. Brasiliensis*, read "Weddell" instead of "Karsten."

922. **Potamogeton Niagarensis**, Tuckerman. The Rev. THOMAS MORONG, who has made the genus *Potamogeton* a special study, regards *P. Niagarensis*, Tuckerman, as only a form of *P. pauciflorus*, Pursh.

945. **Habenaria peramœna**, Gray. For "**peramœna**" read "**fimbriata**."

972. **Dioscorea villosa**, L. Mr. COWELL, in his statement relative to this plant, was misunderstood. He has, however, met with the plant in our vicinity. It has also lately been collected in Chautauqua Co.

1013. **Juncus articulatus**, L.

1014. var. **pelocarpus**, Gray. Our plant is now regarded as *J. alpinus*, Villars, var. *insignis*, Fries.

After "468, CAREX," insert "L" to denote the authority.

1159. **Melica mutica**, Walt. The name, for the present, must be erased.

After "504, PANICUM," insert "L" to denote the authority.

1209. **Panicum Xalapense.** Introduced. The name therefore requires small capitals.

1258. **Dicksonia pilosuiscula,** Willd. For the specific name substitute "**pilosiuscula.**"

524. SPHAGNUM. As the authority for the genus, substitute "Dill." for "Ehrh."

1480. **Theloschistes chrysopthalmus, L.** For the specific name and its authority, substitute "**chrysophthalmus**, Norm."

1485. **Parmelia tiliacea**, Ach. For "Ach.," as the authority for the species, substitute "Flk."

1562. **Rinodina sophodes,** (Ach.) Moss. For "Moss" read "Mass."

2049. **Septoria Erigerontis**, P. and C. In note, for "*annumu*" read "*annuus.*"

2144. **Uromyces Peltandraæ,** Howe. For specific name read "**Peltandræ.**"

2189. **Periconia calicioides,** Fr. In note, for "*Sporacybe*" read "*Sporocybe.*"

2432. **Dothidea Linderæ,** Ger. In note, for "*Lendera*" read "*Lindera.*"

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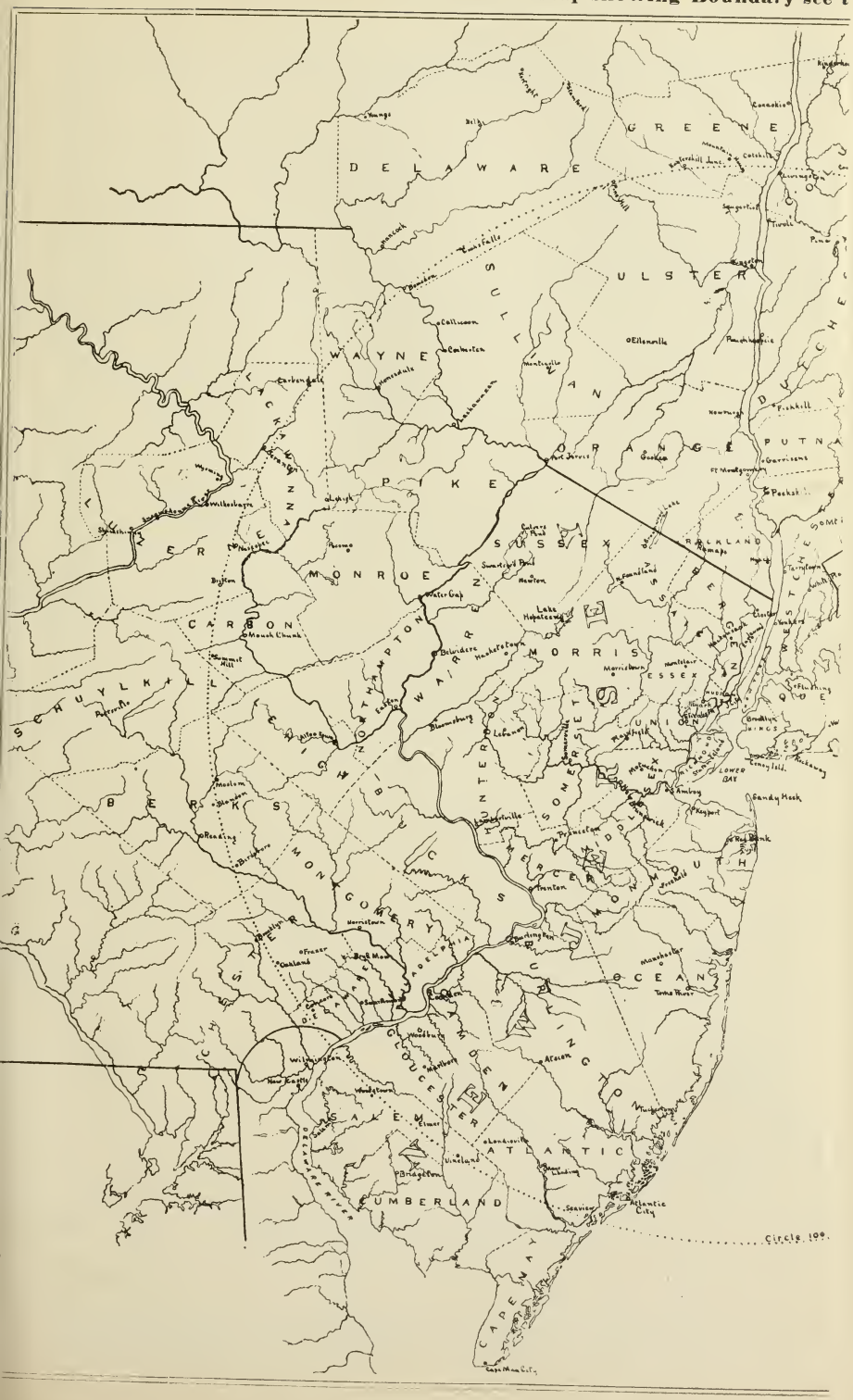
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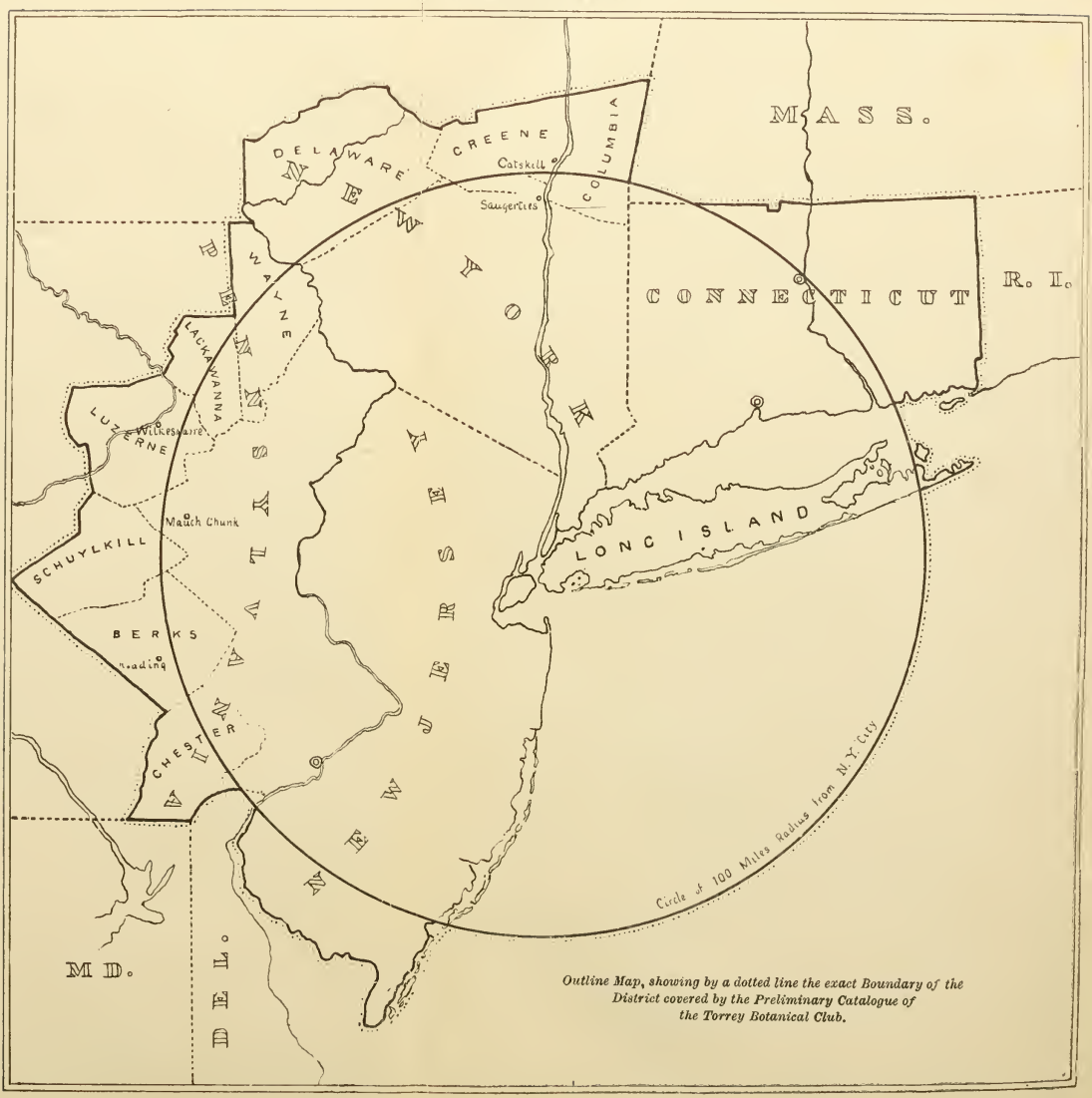


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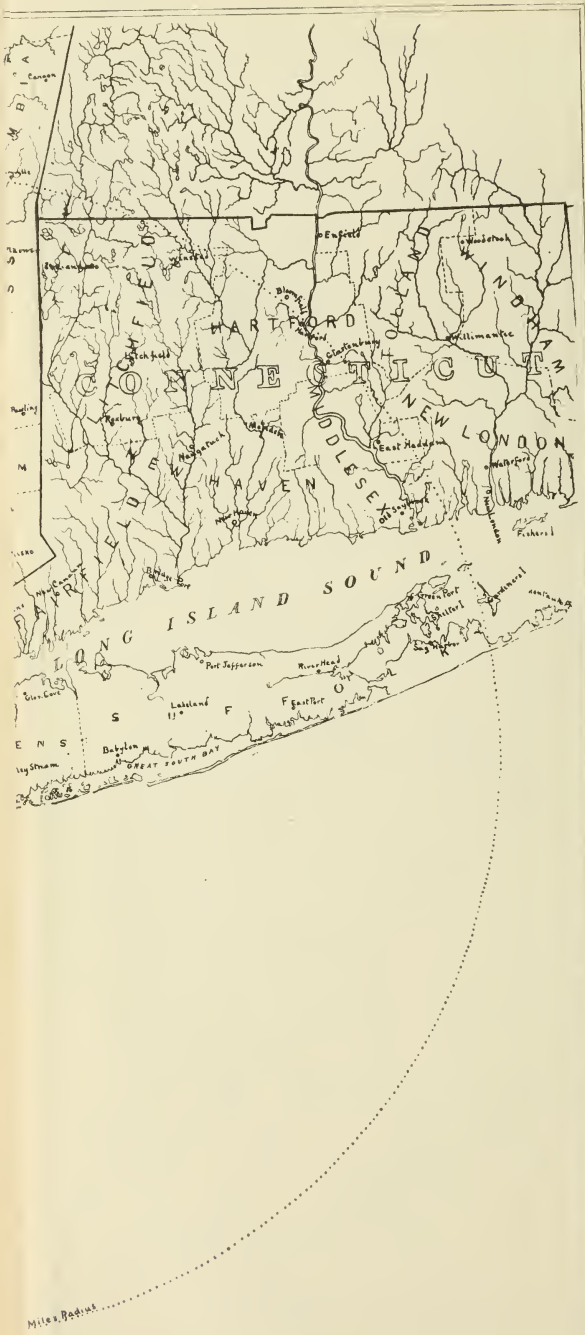

*Map of the Area covered by the*
*Preliminary Catalogue of the Torrey Botanical Club.*
*Arthur Hollick, del., 1888.*

**For Map showing Details see the other side.**




*Outline Map, showing by a dotted line the exact Boundary of the District covered by the Preliminary Catalogue of the Torrey Botanical Club.*

he other side.




R. I.

*Map of the Area covered by the*
*Preliminary Catalogue of the Torrey Botanical Club.*
*Arthur Hollick, del.*, 1888.

PRELIMINARY

# CATALOGUE

OF

# Anthophyta and Pteridophyta

REPORTED AS GROWING SPONTANEOUSLY WITHIN ONE HUNDRED MILES OF NEW YORK CITY.

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COMPILED BY THE FOLLOWING COMMITTEE OF THE

TORREY BOTANICAL CLUB:

JUSTUS F. POGGENBURG, ADDISON BROWN,
N. L. BRITTON, THOS. C. PORTER,
E. E. STERNS, ARTHUR HOLLICK.

THE NOMENCLATURE REVISED AND CORRECTED BY

N. L. BRITTON, E. E. STERNS AND JUSTUS F. POGGENBURG.


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*New York, April 25th, 1888.*

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PRICE, ONE DOLLAR.

*For sale by the Secretary of the Club at the Columbia College Herbarium.*

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# PREFACE.

The object of this Catalogue is to furnish a compact and accessible record of the plants actually reported as growing spontaneously within one hundred miles of New York, and especially to provide a convenient check-list by means of which to secure from the botanists of the region a series of fresh and detailed reports as to the plants of their respective localities, to the end that a complete list of our Flora, with full and accurate stations for all forms of especial interest, may ultimately be prepared. Botanists engaging in this work are requested to observe the following rules:

1.—Indicate degrees of prevalence by the following terms:—"Very common," "common," "abundant," "frequent," "not rare," "rare," "very rare," "only one plant observed."

2.—Report the principal stations for all rare or local plants, indicating the locality as exactly as possible and giving the direction and distance from the nearest railway station. Precise stations for plants so rare as to be liable to be *exterminated by indiscriminate collection*, should, however, not be given.

3.—Note dates of commencement and end of flowering thus: April 10—May 15.

4.—In all cases of doubtful identity forward specimens to the Committee for verification.

5.—Return the Catalogue when called for by the Committee with as many herbarium specimens of the plants reported as can conveniently be furnished for deposit in the Club Herbarium.

6.—Address all communications to Justus F. Poggenburg, Chairman, Committee on Local Flora, Torrey Botanical Club, Columbia College, New York City.

While the territory covered by this Catalogue is, in a general way, bounded by a circle of one hundred miles radius from the city of New York, the Committee has found it expedient to include the whole of New Jersey and Connecticut and of those counties of New York and Pennsylvania crossed by the circle. The boundary thus becomes in reality a very irregular line, but reference to the maps will at once show where it lies.

A large majority of the plants here enumerated have been personally collected by members of the Club and are represented by authentic specimens in its Herbarium. The publications which have aided in the compilation are as follows:

GENERAL LISTS.

*Catalogue of Plants growing spontaneously within Thirty Miles of the City of New York.* By John Torrey. 1819.

*Bulletin of the Torrey Botanical Club.* 1870-1888.

*Flora of New York State.* By John Torrey. 1843.

*Reports of Regents on Cabinet of Nat. Hist. of N. Y.*
*Manual of Botany.* By Asa Gray.
*Synoptical Flora of North America.* By Asa Gray.

## NEW YORK STATE.

*Flora of Richmond County.* By Arthur Hollick and N. L. Britton. 1879.
*Plantæ Plandomenses, or Catalogue of Plants growing near Plandome, Long Island.* By C. W. Eddy. 1807.
*Catalogue of Plants growing in the Vicinity of North Salem Academy.* By S. B. Mead. 1831–2.
*Report on the Flora of Westchester County.* By O. R. Willis. 1880.
*Catalogue of the Phænogamous and Acrogenous Plants growing without Cultivation within Five Miles of Pine Plains.* By Lyman Hoysradt. 1878-79.
*List of Plants of Fishkill and its Vicinity.* Winnifrid A. Stearns. 1880.
*Catalogue of the Indigenous Plants found growing in the Vicinity of Kinderhook Academy.* By W. V. S. Woodworth. 1839–40.
*Plants Collected by the Botanical Class in the Delaware Literary Institute, during the Summer of* 1840. By M. Platt.
*A Review of the Summer Birds of a Part of the Catskill Mountains, with Prefatory Remarks on the Faunal and Floral Features of the Region.* By Eugene Pintard Bicknell. 1882.
*Catalogus Plantarum quas sponte crescentes in insula Noveboraco observavit* Johannes Leconte. 1812.
*Plantæ Coldenhamiæ, in Provincia Noveboracensi Americæ sponte crescentes, quas ad methodus Cl. Linnæi sexualem anno* 1742, *etc., observavit et descripsit* Cadwallader Colden. 1749–51.

## NEW JERSEY.

*Catalogue of Plants growing without Cultivation in the State of New Jersey, with a Specific Description of all the Violets found therein.* By O. R. Willis. 1874.
*Catalogue of Plants growing without Cultivation in the Counties of Monmouth and Ocean.* By P. D. Knieskern, M.D. 1856.
*A Preliminary Catalogue of the Flora of New Jersey.* By N. L. Britton. 1881.

## PENNSYLVANIA.

*An Enumeration of the Indigenous and Naturalized Plants growing in Bucks County.* By I. S. Moyer, M.D. 1876.
*Florula Cestrica; an Essay toward a Catalogue of the Phænogamous Plants, Native and Naturalized, growing in the Vicinity of the Borough of West Chester.* By Wm. Darlington. 1826.
*Flora Cestrica; an Attempt to Enumerate and Describe the Flowering and Filicoid Plants of Chester County, in the State of Pennsylvania.* By Wm. Darlington. 1837. Enlarged edition, 1853.
*Catalogue of the Plants of Delaware County.* By Dr. Geo. Smith.
*Floræ Philadelphicæ Prodromus.* By William P. C. Barton. 1815.
*Compendium Floræ Philadelphicæ; containing a Description of the Indigenous and Naturalized Plants found within a Circuit of Ten Miles around Philadelphia.* By William P. C. Barton. 1818.

*List of Plants found in the Neighborhood of Philadelphia, February to October, and List of Ferns.* By Dr. Darrach. 1860.

*List of the Rarer Plants found near Easton.* By L. de Schweinitz. 1824.

*Catalogue of Botanical Specimens collected by J. Wolle and A. L. Huebener, during the Year* 1837, *in the Vicinity of Bethlehem and Other Parts of Northampton County.* 1839.

CONNECTICUT.

*Catalogue of the Flowering Plants and Higher Cryptogams growing without Cultivation within Thirty Miles of Yale College.* 1878.

*List of Plants growing spontaneously in Litchfield and its Vicinity.* By John P. Brace. 1822.

*Catalogue of the Phænogamous Plants and the Ferns growing without Cultivation within Five Miles of Yale College.* By William Tully, M.D. 1831.

*Catalogue of the Phænogamous and Vascular Cryptogamous Plants found growing in Meriden, Conn.* (Incomplete.) By Emily J. Leonard. 1885.

*Additional Plants found growing in Meriden, Conn., since Issue of Catalogue in* 1885. By Mrs. E. B. Kendrick. 1886.

Several private herbaria and a considerable number of manuscript reports have also been carefully examined.

The work which has specially served as the basis of the present list is the *Catalogue of Plants found within Thirty Miles of New York City*, compiled by Mr. Wm. H. Leggett and published by him in the *Bulletin* (vols. i–v, 1870-1876), but reaching only the Gramineæ.

The preliminary labor of bringing these various reports into available form was entirely accomplished by the Chairman of the Committee, and the other members take this opportunity of recording the fact that but for his efforts this Catalogue would not have been prepared.

In the names and arrangement of orders and genera Bentham and Hooker have been closely followed, except that a few genera not accepted by them have been maintained, and the Gymnospermæ have been placed immediately before the Pteridophyta. Their convenient plan of citing Linnæus as author of the earlier generic names accepted by him has also been adopted, though reluctantly, as it is the firm conviction of the Committee that the just and proper rule would be to give full credit in all such cases to the original authors. As to specific names some important innovations have been made, as fully stated in the report of the subcommittee on nomenclature, who, alone, are responsible for all changes.

As the district includes two important seaports, New York and Philadelphia, the number of ballast plants reported is very large. These are given separately at the end, none being admitted into the Catalogue proper unless positively reported from some station other than a ballast ground.

With regard to future Catalogues the present Committee would strongly recommend that they should be descriptive and illustrated, the descriptions to be drawn from specimens collected within the district, thus making a real local Flora, of which much need is constantly felt. It would further urge that special attention be paid to the collection of the lower forms of plant life. Beyond the published lists of C. F. Austin and A. Halsey, very little information regarding the Bryophyta or Lichens is available; except a few notes by

W. R. Gerard, E. Howe and C. H. Peck, and the descriptions of new species and list of New Jersey forms by J. B. Ellis, nothing is known of our Fungi; and yet the determination of these plants offers no extraordinary difficulties. The recent establishment by the Club of permanent Flora Committees for both Phanerogamia and Cryptogamia affords good ground for hoping that the publication of complete descriptive lists of all the plants of this region will not be long deferred.

## PREFACE OF THE SUBCOMMITTEE ON NOMENCLATURE.

In the preparation of this Catalogue a special effort has been made to maintain for each plant as far as possible its earliest specific or varietal name. No fixed rule can be laid down for determining the generic names of plants, for the boundaries of genera are as shifting and elusive as those of states; but, as regards specific names, it is fortunately otherwise. In the case of nearly every plant it is possible to ascertain positively who first named it in accordance with the Linnæan binomial system.* The original author may have failed to refer it to the proper genus, either ignorantly or through a praiseworthy unwillingness to found new genera except on the strongest grounds. But whatever specific or varietal term may have first been applied to the plant belongs to it individually, and the most profound subsequent knowledge of it or of its relations to other plants cannot warrant any essential change in this portion of its name, always barring the cases governed by the rule that two species of the same genus must not bear the same name, or by the further rule that the generic and specific names must not be identical. Transfers from genus to genus, and alterations in rank as regards species or variety, must not (except as to gender) in any wise affect the trivial name, which is held to be absolutely fixed by the first publication, so that even the author is not at liberty thereafter to modify it in any way.

This law of priority as regards names is recognized to a greater or less extent by all botanists. Indeed, chaos would result if it were generally disregarded, and exactly in proportion as it is rigidly obeyed will order and stability be gradually evolved from the present confusion. Eminent botanists have protested, it is true, against this recognition of the early names of species when published originally in other genera, and more especially when a later name has gained acceptance. It is admitted that the first result of the strict application of this law is a considerable and undesirable increase in the number of synonyms and more or less confusion in the minds of botanists, students especially. These consequences are but temporary, however, and of no real moment weighed against the ultimate benefits to be attained.

The chief difficulty in the application of this rule is due to the fact that Linnæus himself and many of his successors have left behind them some species whose identity from lack of authentic specimens remains doubtful. Those utterly impossible of determination may be ignored altogether, but others which can be made out with some show of probability present serious

* Strictly binomial names of pre-Linnæan date are doubtless entitled to recognition. They involve, however, so many difficult questions of identity that it has been deemed best in the present work to follow the general rule and take up no names published earlier than 1753, the date of the first edition of the *Species Plantarum* of Linnæus.

problems; in all such cases encountered in the preparation of this Catalogue a conservative course has been adopted, and no name has been taken up when there was any reasonable doubt as to what plant it was meant to designate.

Another perplexing question relates to those specific names which are more or less equivalent to the accompanying generic names without being identical. *Echinocystis lobata*, T. & G., was originally *Sicyos echinatus*, Muhl. Is *Echinocystis echinata* admissible? *Larix Americana*, Michx., was originally *Pinus laricina*, Du Roi. Can *Larix laricina* be accepted? In this Catalogue both these questions are decided affirmatively, and those who think otherwise are referred to *Specularia Speculum*, DC., as a weighty precedent.

Alteration of specific names has often been condoned upon the plausible pretext of making them more appropriate, and many will be disinclined to accept the strict law of priority because it brings in now and then a name which, viewed as descriptive, not only lacks fitness but is erroneous and misleading. The polynomial names of the pre-Linnæan systematic botanists necessarily described, and any inaccuracy was a grave defect. It is a special merit of the binomial system that descriptive terms are not essential. The personal names so often employed signify nothing as to the nature of the plants, and yet serve perfectly well to designate species. It is also true that more than one positively deceptive name is in general use. *Berberis Canadensis*, L., does not grow in Canada; *Dioscorea villosa*, L., is never villous; *Salvia Hispanica*, L., is "a purely Mexican species." Let these reconcile the objector to *Asclepias Syriaca*, L., *Conioselinum Chinense*, (L.), *Gentiana quinquefolia*, L., and some other names which are in fact erroneous, but in practice perfectly satisfactory. It is to be remembered that the same law of priority which forces these names upon us also gives us not a few that are most happily descriptive.

It may be well before concluding to explain that the author of the earliest specific or varietal name receives due credit in this Catalogue by citation in parenthesis, in all cases where his plant stands in a genus or rank other than that to which he referred it, and where consequently the name as a whole must be credited to some later authority. *Ilex glabra*, Gray, as commonly cited, wholly ignores Linnæus' relation to the plant; *Ilex glabra*, (L.), Gray, gives due and equal credit to the authors of the original specific name and the present accepted binomial.

In the list of ballast plants no attempt has been to made to apply the law of priority or to indicate the authors of transferred specific names, partly for want of time and partly because this work should be done by botanists more especially concerned with the Floras of the countries to which the plants naturally belong.

The present writers are convinced that in the not distant future the law they have taken as their guide will be generally accepted as the only one that promises a reasonable fixity of botanical names. The practice has, indeed, long been generally adopted by zoölogists, as well as by lichenologists and mycologists, and its application to flowering plants will serve to bring all biological nomenclature into practical harmony.

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# CATALOGUE.

## RANUNCULACEÆ.

**Clematis, L.**

ochroleuca, Ait.
verticillaris, DC.
Viorna, L.
Virginiana, L.

**Thalictrum, L.**

dioicum, L.
polygamum, Muhl. (*T. Cornuti, Gray, not L.*)
purpurascens, L.

**Anemonella, Spach.**

thalictroides, (L.), Spach. (*Thalictrum anemonoides, Michx.*)

**Anemone, L.**

acutiloba, (DC.), Lawson. (*Hepatica acutiloba, DC.*)
cylindrica, Gray.
dichotoma, L. (*A. Pennsylvanica, L.*)
Hepatica, L. (*Hepatica triloba, Chaix.*)
nemorosa, L.
var. quinquefolia, Gray.
Virginiana, L.

**Adonis, L.**

*autumnalis, L.*

**Ranunculus, L.**

abortivus, L.
var. micranthus, (Nutt.), Gray.
*acris, L.*
ambigens, S. Wats. (*R. alismæfolius, Gray, not Geyer.*)
aquatilis, L., var. trichophyllus, Gray.
*bulbosus, L.*
circinatus, Sibth. (*R. divaricatus, Gray, Manual.*)
Cymbalaria, Pursh.
fascicularis, Muhl.
*Ficaria, L.* (*Ficaria ranunculoides, Mœnch.*)
multifidus, Pursh.
Pennsylvanicus, L. f.
pusillus, Poir.
recurvatus, Poir.

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repens, L.
reptans, L. (*R. Flammula, L., var. reptans, Meyer.*)
sceleratus, L.
septentrionalis, Poir. (*R. repens, Gray, Manual, in part.*)

**Caltha, L.**
flabellifolia, Pursh.
palustris, L.

**Hydrastis, L.**
Canadensis, L.

**Trollius, L.**
Americanus, Muhl. (*T. laxus, Salisb.*)

**Helleborus, L.**
*viridis, L.*

**Eranthis, Salisb.**
*hyemalis, (L.), Salisb.*

**Coptis, Salisb.**
trifolia, (L.), Salisb.

**Aquilegia, L.**
Canadensis, L.
var. flaviflora, (Tenney), Britton.
*vulgaris, L.*

**Delphinium, L.**
*Consolida, L.*

**Aconitum, L.**
*Napellus, L.*

**Actæa, L.**
alba, Bigel.
spicata, L., var. rubra, Ait.

**Cimicifuga, L.**
racemosa, (L.), Nutt.

## MAGNOLIACEÆ.

**Magnolia, L.**
glauca, L.
tripetala, L. (*M. Umbrella, Lam.*)

**Liriodendron, L.**
Tulipifera, L.

## ANONACEÆ.

**Asimina, Adans.**
triloba, (L.), Dun.

## MENISPERMACEÆ.

**Menispermum, L.**
Canadense, L.

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BERBERIDEÆ.

**Berberis, L.**
*vulgaris, L.*
**Caulophyllum, Michx.**
thalictroides, (L.), Michx.
**Podophyllum, L.**
peltatum, L.

NYMPHÆACEÆ.

**Brasenia, Schreb.**
peltata, (Thunb.), Pursh.
**Nymphæa, L., Salisb.** (*Nuphar, Smith.*)
advena, Soland. (*Nuphar advena, Ait.*)
microphylla, Pers. (*Nuphar Kalmiana, Ait.*)
rubrodisca, (Morong), Greene. (*Nuphar luteum, Gray, not Smith.*)
**Castalia, Salisb.** (*Nymphæa, L., in part.*)
odorata, (Dryand), Greene.
var. minor, (Sims).
**Nelumbo, Adans.**
lutea, (Willd.), Pers.

SARRACENIACEÆ.

**Sarracenia, L.**
purpurea, L.

PAPAVERACEÆ.

**Papaver, L.**
*Argemone, L.*
*dubium, L.*
*somniferum, L.*
**Argemone, L.**
*Mexicana, L.*
**Sanguinaria, L.**
Canadensis, L.
**Glaucium, Juss.**
*luteum, Scop.*
**Chelidonium, L.**
*majus, L.*
**Dicentra, Borkh.**
Canadensis, (Goldie), DC.
Cucullaria, (L.), DC.
**Adlumia, Raf.**
fungosa, (Ait.), Greene in litt. (*A. cirrhosa, Raf.*)

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**Corydalis, DC.**

aurea, (Michx.), Willd.
flavula, (Raf.), DC.
sempervirens, (L.), Pers. (*C. glauca, Pursh.*)

**Fumaria, L.**

*officinalis, L.*

CRUCIFERÆ.

**Nasturtium, R. Br.**

*Armoracia, (L.), Fries.*
lacustre, Gray.
*officinale, R. Br.*
palustre, (L.), DC.
var. hispidum, (Desv.), Fisch. & Meyer.
*sylvestre, (L.), R. Br.*

**Barbarea, R. Br.**

*præcox, (Smith), R. Br.*
*vulgaris, R. Br.*
*var. arcuata, (Reichenb.), Koch.*

**Arabis, L.**

Canadensis, L.
confinis, S. Wats. (*A. Drummondii, Gray, Manual.*)
glabra, (L.), Bernh. (*A perfoliata, Lam.*)
hirsuta, (L.), Scop.
lævigata, (Muhl.), Poir.
lyrata, L.
patens, Sulliv.

**Cardamine, L.**

bulbosa, (Schreb.) (*C. rhomboidea, DC.*)
var. purpurea, (Torr.)
diphylla, (Michx.), Wood. (*Dentaria diphylla, Michx.*)
heterophylla, (Nutt.), Wood. (*D. heterophylla, Nutt.*)
hirsuta, L.
var. sylvatica, (Link), Gray.
laciniata, (Muhl.), Wood. (*D. laciniata, Muhl.*)
maxima, (Nutt.), Wood. (*D. maxima, Nutt.*)
pratensis, L.
rotundifolia, Michx.

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*calycinum, L.*
*maritimum, L.*

**Draba, L.**

Caroliniana, Walt.
verna, L.

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**Hesperis, L.**
*matronalis, L.*
**Sisymbrium, L.**
*Alliaria, (L.), Scop.*
*officinale, (L.), Scop.*
pinnatum, (Walt.), Greene. (*S. canescens, Nutt.*)
*Sophia, L.*
*Thaliana, (L.), Gay.*
**Erysimum, L.**
cheiranthoides, L.
*orientale, L.*
**Camelina, Crantz.**
*sativa, (L.), Crantz.*
**Brassica, L.**
*alba, (L.), Gray.*
*arvensis, (L.)* (*B. Sinapistrum, Boiss.*)
*campestris, L.*
*nigra, (L.), Koch.*
*Rapa, L.*
**Diplotaxis, DC.**
*tenuifolia, (L.), DC.*
**Capsella, Mœnch.**
*Bursa-pastoris, (L.), Mœnch.*
**Senebiera, Poir.**
*Coronopus, (L.), Poir.*
*didyma, (L.), Pers.*
**Lepidium, L.**
*campestre, (L.), R. Br.*
*Draba, L.*
*intermedium, Gray.*
*ruderale, L.*
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**Thlaspi, L.**
*arvense, L.*
**Cakile, Gærtn.**
Americana, Nutt.
**Raphanus, L.**
*Raphanistrum, L.*
*sativus, L.*

CAPPARIDEÆ.

**Cleome, L.**
*pungens, Willd.*

**Polanisia, Raf.**
dodecandra, (Michx.) (*P. graveolens, Raf.*)
**Gynandropsis, DC.**
*pentaphylla, (L.), DC.*

RESEDACEÆ.

**Reseda, L.**
*Luteola, L.*

CISTINEÆ.

**Helianthemum, Pers.**
majus, (L.) (*H. Canadense, Michx.*)
corymbosum, (Poir.), Michx.
**Hudsonia, L.**
ericoides, L.
tomentosa, Nutt.
**Lechea, L.**
Leggettii, Britton & Hollick. (*L. minor, Lam.*)
var. intermedia, Britton & Hollick.
var. pulchella, Britton & Hollick. (*L. pulchella, Raf.?*)
maritima, Leggett. (*L. thymifolia, Pursh, not Michx.*)
minor, L. (*L. major, Michx.*)
racemulosa, Lam.
tenuifolia, Michx.
thymifolia, Michx. (*L. Novæ-Cæsareæ, Austin.*)

VIOLARIEÆ.

**Viola, L.**
blanda, Willd.
var. amœna, (LeConte). (*V. amœna, LeConte.*)
Canadensis, L.
canina, L., var. Muhlenbergii, (Torr.), Gray.
lanceolata, L.
*odorata, L.*
palmata, L.
var. cordata, (Walt.)
var. cucullata, (Ait.), Gray. (*V. cucullata, Ait.*)
pedata, L.
var. alba. Thurber.
var. bicolor, Pursh.
primulæfolia, L.
pubescens, Ait.
var. scabriuscula, T. & G.

rostrata, Muhl.
rotundifolia, Michx.
sagittata, Ait.
striata, Ait.
tenella, Muhl. (*V. tricolor, L., var. arvensis, DC.*)
*tricolor, L.*

**Solea, Ging.**
concolor, (Forst.), Ging.

POLYGALEÆ.

**Polygala, L.**
ambigua, Nutt.
brevifolia, Nutt.
cruciata, L.
fastigiata, Nutt.
incarnata, L.
lutea, L.
Nuttallii, T. & G.
paucifolia, Willd.
polygama, Walt.
sanguinea, L.
Senega, L.
verticillata, L.

CARYOPHYLLEÆ.

**Dianthus, L.**
*Armeria, L.*
*prolifer, L.*

**Tunica, Scop.**
*Saxifraga, (L.), Scop.*

**Gypsophila, L.**
*arvensis, L.*

**Saponaria, L.**
*officinalis, L.*
*Vaccaria, L.* (*Vaccaria vulgaris, Host.*)

**Silene, L.**
*antirrhina, L.*
*Armeria, L.*
*Gallica, L., var. quinquevulnera, (L.), Koch.*
*inflata, Smith.*
*noctiflora, L.*
Pennsylvanica, Michx.

stellata, (L.), Ait.
Virginica, L.

**Lychnis, L.**
*dioica, L.*
*diurna, Sibth.*
*Githago, (L.), Lam.*
*vespertina, Sibth.*

**Cerastium, L.**
arvense, L.
var. oblongifolium, (Torr.), Hollick & Britton.
nutans, Raf.
viscosum, L.
vulgatum, L.

**Stellaria, L.**
borealis, Bigel.
*graminea, L.*
*Holostea, L.*
longifolia, Muhl.
*media (L.), Smith.*
pubera, Michx.
uliginosa, Murr.

**Arenaria, L.**
Caroliniana, Walt. (*A. squarrosa, Michx.*)
Grœnlandica, (Retz.), Spreng.
lateriflora, L.
Michauxii, (Fenzl), Hook. f. (*A. stricta, Michx.*)
peploides, L.
*serpyllifolia, L.*

**Sagina, L.**
apetala, L.
decumbens, (Ell.), T. & G. (*S. subulata, Gray, not Wimmer.*)
var. Smithii, (Gray), S. Wats.
procumbens, L.

**Spergula, L.**
*arvensis, L.*

**Lepigonum, Fries.** (*Spergularia, Pers.*)
medium, (L.), Fries.
var. macrocarpum, (Presl), S. Wats.
rubrum, (L.), Fries.
salinum, (Presl), Fries.

## PORTULACEÆ.

**Portulaca, L.**
*grandiflora, Hook.*
*oleracea, L.*
**Talinum, Adans.**
teretifolium, Pursh.
**Claytonia, L.**
Caroliniana, Michx.
Virginica, L.

## ELATINEÆ.

**Elatine, L.**
Americana, (Pursh), Arnott.

## HYPERICINEÆ.

**Ascyrum, L.**
Crux-Andreæ, L.
stans, (Pers.), Michx.
**Hypericum, L.**
adpressum, Bart.
Ascyron, L. (*H. pyramidatum, Ait.*)
Canadense, L.
var. majus, Gray.
densiflorum, Pursh. (*H. prolificum, L., var. densiflorum, Gray.*)
ellipticum, Hook.
gentianoides, (L.) (*H. Sarothra, Michx.*)
gymnanthum, Engelm. & Gray.
maculatum, Walt. (*H. corymbosum, Muhl.*)
mutilum, L.
*perforatum, L.*
petiolatum, Walt. (*Elodes petiolata, Pursh.*)
prolificum, L.
virgatum, Lam. (*H. angulosum, Michx.*)
Virginicum, L. (*E. Virginica, Nutt.*)

## MALVACEÆ.

**Althæa, L.**
*officinalis, L.*
**Malva, L.**
*Alcea, L.*
*moschata, L.*
*rotundifolia, L.*
*sylvestris, L.*

**Sida, L.**
*spinosa, L.*
**Abutilon, Gærtn.**
*Avicennæ, Gærtn.*
**Kosteletzkya, Presl.**
Virginica, (L.), Gray.
**Hibiscus, L.**
Moscheutos, L.
*Syriacus, L.*
*Trionum, L.*

TILIACEÆ.

**Tilia, L.**
Americana, L.
pubescens, Ait. (*T. Americana, L., var. pubescens, Gray.*)

LINEÆ.

**Linum, L.**
striatum, Walt.
sulcatum, Ridd.
*usitatissimum, L.*
Virginianum, L.

GERANIACEÆ.

**Geranium, L.**
Carolinianum, L.
*columbinum, L.*
*dissectum, L.*
maculatum, L.
*pusillum, L.*
Robertianum, L.
*Sibiricum, L.*
**Erodium, L'Hér.**
*cicutarium, (L.), L'Hér.*
**Flœrkea, Willd.**
proserpinacoides, Willd.
**Oxalis, L.**
Acetosella, L.
*corniculata*, L.
var. stricta, (L.), Sav.
violacea, L.
**Impatiens, L.**
aurea, Muhl. (*I. pallida, Nutt.*)
biflora, Walt. (*I. fulva, Nutt.*)

RUTACEÆ.

**Ruta, L.**
*graveolens, L.*
**Xanthoxylum, L.**
Americanum, Mill.
**Ptelea, L.**
trifoliata, L.

SIMARUBEÆ.

**Ailanthus, Desf.**
*glandulosus*, Desf.

ILICINEÆ.

**Ilex, L.**
dubia, (Don). (*I. mollis, Gray.*)
glabra, (L.), Gray.
lævigata, (Pursh), Gray.
monticola, Gray.
opaca, Ait.
verticillata, (L.), Gray.
var. tenuifolia, Torr.
**Nemopanthes, Raf.**
Canadensis, (Michx.), DC.

CELASTRINEÆ.

**Euonymus, L.**
Americanus, L.
var. obovatus, T. & G.
atropurpureus, Jacq.
*Europæus, L.*
**Celastrus, L.**
scandens, L.

RHAMNEÆ.

**Rhamnus, L.**
alnifolia, L'Hér.
Caroliniana, Walt. (*Frangula Caroliniana, Gray.*)
*cathartica, L.*
**Ceanothus, L.**
Americanus, L.

AMPELIDEÆ.

**Vitis, L.**
æstivalis, Michx.
cordifolia, Michx.
Labrusca, L.

quinquefolia, (L.), Lam. (*Ampelopsis quinquefolia, Michx.*)
riparia, Michx. (*V. cordifolia, Michx., var. riparia, Gray.*)

SAPINDACEÆ.

**Acer, L.**
dasycarpum, Ehrh.
Pennsylvanicum, L.
rubrum, L.
saccharinum, Wang.
var. nigrum, (Michx. f.), T. & G.
spicatum, Lam.
**Negundo, Mœnch.**
aceroides, Mœnch.
**Staphylea, L.**
trifolia, L.

ANACARDIACEÆ.

**Rhus, L.**
aromatica, Ait.
copallina, L.
glabra, L.
Toxicodendron, L.
var. radicans, (L.), Torr.
typhina, L.
venenata, DC.

LEGUMINOSÆ.

**Baptisia, Vent.**
tinctoria, (L.), R. Br.
**Crotalaria, L.**
sagittalis, L.
**Lupinus, L.**
perennis, L.
**Genista, L.**
*tinctoria, L.* (*Near Peekskill?*)
**Cytisus, L.**
*scoparius, Link.*
*triflorus, L'Hér.*
**Medicago, L.**
*lupulina, L.*
*maculata, Willd.*
*sativa, L.*
**Melilotus, Juss.**
*alba, Lam.*

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*officinalis*, (*L.*), *Lam.*

**Trifolium, L.**

*agrarium*, *L.*
*arvense*, *L.*
*Carolinianum*, *Michx.*
*hybridum*, *L.*
*incarnatum*, *L.*
*medium*, *L.*
*pratense*, *L*
*procumbens*, *L.*
*var. minus*, *Koch.*
reflexum, L.
*repens*, *L.*

**Amorpha, L.**

*fruticosa*, *L.*

**Tephrosia, Pers.**

Virginiana, (L.), Pers.

**Robinia, L.**

*hispida*, *L.*
*Pseudacacia*, *L.*
*viscosa*, *Vent.*

**Astragalus, L.**

Canadensis, L. (*Westchester County?*)

**Coronilla, L.**

*varia*, *L.*

**Æschynomene, L.**

Virginica, (L.) (*Æ. hispida*, *Willd.*)

**Stylosanthes, Swartz.**

biflora, (L.) (*S. elatior*, *Swartz.*)

**Desmodium, Desv.**

Canadense, (L.), DC.
canescens, (L.), DC.
ciliare, (Muhl.), DC.
cuspidatum, (Muhl.), Hook.
Dillenii, Darl.
grandiflorum, (Walt.), DC. (*D. acuminatum*, *DC.*)
humifusum, (Muhl.), Beck.
lævigatum, (Nutt.), DC.
Marylandicum, (L.), Boott.
nudiflorum, (L.), DC.
paniculatum, (L.), DC.
pauciflorum, (Nutt.), DC.

rigidum, (Ell.), DC.
rotundifolium, (Michx.), DC.
strictum, (Pursh), DC.
viridiflorum, (L.), Beck.

**Lespedeza, Michx.**

angustifolia, (Pursh), Ell. (*L. capitata, Michx., var. angustifolia, Pursh.*)
frutescens, (Willd.), Ell. (*L. capitata, Michx.*)
hirta, (L.), Ell.
var. angustifolia, Maxim.
repens, (L.), Bart.
reticulata, (Muhl.), Pers. (*L. violacea, Pers., var. sessiliflora, Don.*)
var. angustifolia, (Hook.), Maxim. (*L. violacea, Pers., var. angustifolia, T. & G.*)
Stuvei, Nutt.
violacea, (L.), Pers.

**Vicia, L.**

Americana, Muhl.
Caroliniana, Walt.
Cracca, L.
*hirsuta*, (*L.*), *Koch.*
*sativa*, *L.*
*var. angustifolia*, (*Roth*), *Ser.*
*tetrasperma*, (*L.*), *Lois.*

**Lathyrus, L.**

glaucifolius, Beck. (*L. ochroleucus, Hook.*)
maritimus, (L.), Bigel.
palustris, L.
var. myrtifolius, (Muhl.), Gray.
venosus, Muhl.

**Clitoria, L.**

Mariana, L.

**Amphicarpæa, Ell.**

comosa, (L.), Ridd. (*A. monoica, Ell.*)

**Apios, Mœnch.**

tuberosa, Mœnch.

**Galactia, P. Br.**

pilosa, Ell. (*G. mollis, Gray, not Michx.*)
regularis, (L.) (*G. glabella, Michx.*)

**Phaseolus, L.**

angulosus, (Muhl.), Ort. (*P. diversifolius, Pers.*)

helvolus, L.
polystachyus, (L.) (*P. perennis, Walt.*)

**Gleditschia, L.**
*triacanthos, L.*

**Cassia, L.**
Chamæcrista, L.
Marylandica, L.
nictitans, L.

**Cercis, L.**
Canadensis, L.

ROSACEÆ.

**Prunus, L.**
Americana, Marsh.
*Cerasus, L.*
*Mahaleb, L.*
maritima, Wang.
var. pygmæa, (Willd.)
Pennsylvanica, L. f.
pumila, L.
serotina, Ehrh.
*spinosa, L.*
Virginiana, L.

**Spiræa, L.**
Aruncus, L.
betulifolia, Pall. (*S. corymbosa, Raf.*)
*lobata, Jacq.*
salicifolia, L.
tomentosa, L.

**Neillia, Don.**
opulifolia, (L.), Benth. & Hook. (*Spiræa opulifolia, L.*)

**Gillenia, Mœnch.**
trifoliata, (L.), Mœnch.

**Rubus, L.**
Canadensis. L.
cuneifolius, Pursh.
Dalibarda, L. (*Dalibarda repens, L.*)
hispidus, L.
*laciniatus, Willd.*
neglectus, Peck.
occidentalis, L.
odoratus, L.
strigosus, Michx.

triflorus, Richards.
villosus, Ait.
var. frondosus, Torr.
var. humifusus, T. & G.

**Geum, L.**
album, Gmel.
var. flavum, Porter.
rivale, L.
strictum, Ait.
*vernum*, (*Raf.*), *T. & G.*
Virginianum, L.

**Waldsteinia, Willd.**
fragarioides, (Michx.), Tratt.

**Fragaria, L.**
*Indica*, *Andr.*
vesca, L.
Virginiana, Duchesne.
var. Illinoensis, (Prince), Gray.

**Potentilla, L.**
anserina, L.
argentea, L.
arguta, Pursh.
Canadensis, L.
var. simplex, (Michx.), T. & G.
fruticosa, L.
Norvegica, L.
palustris, (L.), Scop.
*recta*, *L.*
tridentata, Soland.

**Agrimonia, L.**
Eupatoria, L.
parviflora, Ait.

**Poterium, L.**
Canadense, (L.), Gray.
*Sanguisorba*, *L.*

**Rosa, L.**
blanda, Ait.
*canina*, *L.*
Carolina, L.
humilis, Marsh. (*R. lucida*, *Gray*, *Manual. in part.*)
var. lucida, (Ehrh.), Best. (*R. lucida*, *Ehrh.*, *in part.*)
var. villosa, Best. (*R. lucida*, *Gray*, *Manual*, *in part.*)

nitida, Willd. (*R. lucida, Gray, Manual, in part.*)
*rubiginosa*, L. (*Includes R. micrantha, Smith.*)
*setigera, Michx.*

**Pyrus, L.**

Americana, (Marsh.), DC.
angustifolia, Ait.
arbutifolia, (L.), L.f. (*P. arbutifolia, L., var. erythrocarpa, Gray*)
var. melanocarpa, (Willd.), Hook.
coronaria, L.
*Malus, L.*

**Cratægus, L.**

coccinea, L.
var. macrantha, Dudley.
Crus-galli, L.
*Oxyacantha, L.*
parvifolia, Ait.
*populifolia, Walt.* (*C. cordata, Ait.*)
*Pyracantha*, (*L.*), *Pers.*
spathulata, Michx. (*Near Philadelphia?*)
subvillosa, Schrad.
tomentosa, L.
var. punctata, (Jacq.), Gray.

**Amelanchier, Lindl.**

Canadensis, (L.), Medikus (fide Steudel.)
var. obovalis, (Michx.) (*var. oblongifolia, T. & G.*)
var. oligocarpa, (Michx., T. & G.
var. rotundifolia, (Michx.), T. & G.

## SAXIFRAGEÆ.

**Saxifraga, L.**

micranthifolia, (Haw.) (*S. erosa, Pursh.*)
Pennsylvanica, L.
Virginiensis, Michx.
var. pentadecandra, Sterns.

**Tiarella, L.**

cordifolia, L.

**Mitella, L.**

diphylla, L.
nuda, L.

**Heuchera, L.**

Americana, L.

**Chrysosplenium, L.**

Americanum, L.

**Parnassia, L.**

Caroliniana, Michx.

**Hydrangea, L.**

arborescens, L.

**Itea, L.**

Virginica, L.

**Ribes, L.**

Cynosbati, L.
floridum, L'Hér.
lacustre, Poir.
oxyacanthoides, L. (*R. hirtellum, Michx.*)
prostratum, L'Hér.
rotundifolium, Michx.
*rubrum, L.*

CRASSULACEÆ.

**Tillæa, L.**

simplex, Nutt.

**Sedum, L.**

*acre, L.*
roseum, (L.), Scop. (*S. Rhodiola, DC.*)
*Telephium*, L.
*ternatum*, (*Haw.*), *Michx.*

**Penthorum, L.**

sedoides, L.

DROSERACEÆ.

**Drosera, L.**

filiformis, Raf.
intermedia, Drev. & Hayne, var. Americana, DC. (*D. longifolia, Michx., not L.*)
rotundifolia, L.

HAMAMELIDEÆ.

**Hamamelis, L.**

Virginiana, L.

**Liquidambar, L.**

styraciflua, L.

HALORAGEÆ.

**Proserpinaca, L.**

palustris, L.
pectinata, Lam.

**Hippuris, L.**

vulgaris, L.

**Myriophyllum, L.**

ambiguum, Nutt. (*M. ambiguum, Nutt., var. natans, T. & G.*)

var. capillaceum, T. & G.

var. humile, (Raf.) (*M. ambiguum, Nutt., var. limosum, Torr.*)

heterophyllum, Michx.

pinnatum, (Walt.) *M. scabratum, Michx.*)

spicatum, L.

tenellum, Bigel.

verticillatum, L.

**Callitriche, L.**

Austini, Engelm.

heterophylla, Pursh.

var. linearis, (Pursh), Austin.

verna, L.

MELASTOMACEÆ.

**Rhexia, L.**

Mariana, L.

Virginica, L.

LYTHRARIEÆ.

**Ammannia, L.**

coccinea, Rottb.

latifolia, L.

ramosior, L. (*A. humilis, Michx.*)

**Cuphea, P. Br.**

petiolata, (L.), Kœhne. (*C. viscosissima, Jacq.*)

**Lythrum, L.**

alatum, Pursh.

hyssopifolia, L.

lineare, L.

*Salicaria, L.*

**Nesæa, Commers.**

verticillata, (L.), HBK.

ONAGRARIEÆ.

**Epilobium, L.**

coloratum, Muhl.

palustre, L., var. oliganthum, (Michx.) (*var. lineare, Gray.*)

spicatum, Lam. (*E. angustifolium, Gray, Manual.*)

strictum, Muhl. (*E. molle, Torr.*)

**Jussiæa, L.**

*repens, L.*

**Ludwigia, L.**

alternifolia, L.
hirtella, Raf.
linearis, Walter.
palustris, (L.), Ell.
polycarpa, Short & Peter.
sphærocarpa, Ell.

**Œnothera, L.**

biennis, L.
var. grandiflora, (Ait.), Lindl.
var. muricata, (L.), Lindl.
fruticosa, L.
var. hirsuta, Nutt.
var. humifusa, Allen. (*Œ. linearis, Gray, in part.*)
var. linearis, (Michx.), S. Wats. (*Œ. linearis, Gray, in part, and Œ. riparia, Nutt.*)
humifusa, Nutt.
pumila, L. (*Œ. chrysantha, Michx.*)
sinuata, L.
var. minima, (Pursh), Nutt.

**Gaura, L.**

biennis, L.

**Circæa, L.**

alpina, L.
Lutetiana, L.

**Trapa, L.**

*natans, L.*

CUCURBITACEÆ.

**Echinocystis, T. & G.**

echinata, (Muhl.) (*E. lobata, T. & G.*)

**Sicyos, L.**

*angulatus, L.*

CACTEÆ.

**Opuntia, Mill.**

Rafinesquii, Engelm.
vulgaris, Haw.

FICOIDEÆ.

**Sesuvium, L.**

maritimum, (Walt.) (*S. Portulacastrum, Gray, not L.*)

**Mollugo, L.**

*verticillata, L.*

UMBELLIFERÆ.

**Hydrocotyle, L.**

Americana, L.

ambigua, (Gray.) (*H. umbellata, L., var. ambigua, Gray.*)
interrupta, Muhl.
ranunculoides, L. f.
umbellata, L.

**Eryngium, L.**
Virginianum, Lam.
yuccæfolium, Michx.

**Sanicula, L.**
Canadensis, L.
Marylandica, L.

**Conium, L.**
*maculatum, L.*

**Bupleurum, L.**
*rotundifolium, L.*

**Cicuta, L.**
bulbifera, L.
maculata, L.

**Carum, L.**
*Carui, L.*

**Sium, L.**
Carsonii, Durand.
cicutæfolium, Gmel. (*S. lineare, Michx.*)

**Berula, Koch.**
angustifolia, (L.), Koch. (*Sium angustifolium, L.*)

**Ægopodium, L.**
*Podagraria, L.*

**Pimpinella, L.**
integerrima, (L.), Benth. & Hook. (*Zizia integerrima. DC.*)
*Saxifraga, L., var. major, Koch.*

**Cryptotænia, DC.**
Canadensis, (L.), DC.

**Osmorhiza, Raf.**
Claytoni, (Michx.) (*O. brevistylis, DC.*)
longistylis, (Torr.), DC.

**Chærophyllum, L.**
procumbens, (L.), Crantz.

**Anthriscus, Hoffm.**
*Cerefolium, (L.), Hoffm.* (*Chærophyllum sativum, Lam.*)

**Fœniculum, Adans.**
*vulgare, Gærtn.*

**Crantzia, Nutt.**
lineata, (Michx.), Nutt.

**Discopleura, DC.**
major, (Walt.) (*D. capillacea, DC.*)
**Æthusa, L.**
*Cynapium, L.*
**Thaspium, L.**
aureum, (L.), Nutt.
var. cordatum, (Walt.) (*T. trifoliatum, Gray.*)
var. trifoliatum, (L.) (*var. atropurpureum, Gray.*)
barbinode, (Michx.), Nutt.
**Zizia, Koch.**
aurea, Koch. (*Thaspium aureum, var. apterum, Gray.*)
cordata, Koch. (*Thaspium trifoliatum, var. apterum, Gray.*)
**Conioselinum, Fisch.**
Chinense, (L.) (*C. Canadense, T. & G.*)
**Angelica, L.**
atropurpurea, L. (*Archangelica atropurpurea, Hoffm.*)
villosa, (Walt.) (*Archangelica hirsuta, T. & G.*)
**Pastinaca, L.**
*sativa, L.*
**Tiedemannia, DC.**
rigida, (L.), Coulter & Rose. (*Archemora rigida, DC.*)
var. longifolia, (Pursh.) (*A. rigida, var. ambigua, T. & G.*)
**Heracleum, L.**
lanatum, Michx.
**Daucus, L.**
*Carota, L.*

ARALIACEÆ.

**Aralia, L.**
hispida, Vent.
nudicaulis, L.
var. prolifera, Apgar.
quinquefolia, (L.), Decne. & Planch.
racemosa, L.
*spinosa, L.*
trifolia, (L.), Decne. & Planch.

CORNACEÆ.

**Cornus, L.**
alternifolia, L. f.
Canadensis, L.
candidissima, Marsh. (*C. paniculata, L'Hér.*)
circinata, L'Hér.

florida, L.
sericea, L.
stolonifera, Michx.

**Nyssa, L.**
sylvatica, Marsh. (*N. multiflora, Wang.*)

CAPRIFOLIACEÆ.

**Sambucus, L.**
Canadensis, L.
*var. laciniata, Gray.*
racemosa, L. (*S. pubens, Michx.*)

**Viburnum, L.**
acerifolium, L.
dentatum, L.
lantanoides, Michx.
Lentago, L.
molle, Michx.
nudum, L.
var. cassinoides, (L.), T. & G.
Opulus, L.
prunifolium, L.
pubescens, Pursh.

**Triosteum, L.**
angustifolium, L.
perfoliatum, L.

**Symphoricarpos, Juss.**
*racemosus, Michx.*
*vulgaris, Michx.*

**Linnæa, Gronov.**
borealis, L.

**Lonicera, L.**
cærulea, L.
*Caprifolium, L.* (*L. grata, Gray, Manual.*)
ciliata, Muhl.
glauca, Hill. (*L. parviflora, Lam.*)
hirsuta, Eaton.
sempervirens, L.
*Tatarica, L.*

**Diervilla, Tourn.**
trifida, Mœnch.

RUBIACEÆ.

**Cephalanthus, L.**
occidentalis, L.

**Oldenlandia, L.**
uniflora, L. (*O. glomerata, Michx.*)
**Houstonia, L.**
cærulea, L.
purpurea, L.
var. longifolia, (Gærtn.), Gray.
**Mitchella, L.**
repens, L.
**Diodia, L.**
teres, Walt.
Virginiana, L.
**Galium, L.**
Aparine, L.
asprellum, Michx.
boreale, L.
circæzans, Michx.
concinnum, T. & G.
lanceolatum, Torr.
latifolium, Michx.
*Mollugo, L.*
peregrinum, (Walt.) (*G. hispidulum, Michx.*)
pilosum, Ait.
var. puncticulosum, (Michx.), T. & G.
trifidum, L.
var. latifolium, Torr.
var. pusillum, Gray.
triflorum, Michx.
*verum, L.*

VALERIANEÆ.

**Valeriana, L.**
*officinalis, L.*
pauciflora, Michx.
sylvatica, Banks.
**Valerianella, Tourn.** (*Fedia, Gærtn.*)
*olitoria, Poll.*
radiata, Dufr.
Woodsiana, (T. & G.), Walp.
var. patellaria, (Sulliv.), Gray.
var umbilicata, (Sulliv.), Gray.

DIPSACEÆ.

**Dipsacus, L.**
*fullonum, L.*
*sylvestris, Mill.*

COMPOSITÆ.

**Vernonia, Schreb.**

Noveboracensis, (L.), Willd.

**Sclerolepis, Cass.**

uniflora, (Walt.) (*S. verticillata, Cass.*)

**Eupatorium, L.**

ageratoides, L. f.

album, L.

var. subvenosum, Gray.

aromaticum, L.

var. melissoides, (Willd.), Gray.

cœlestinum, L. (*Conoclinium cœlestinum, DC.*)

*fœniculoides, Walt.* (*E. fœniculaceum, Willd.*)

hyssopifolium, L.

leucolepis, T. & G.

perfoliatum, L.

var. truncatum, Gray.

purpureum, L.

var. maculatum, (L.), Darl.

resinosum, Torr.

rotundifolium, L.

var. pubescens, (Muhl.) (*E. pubescens, Muhl.*)

sessilifolium, L.

teucriifolium, Willd.

**Mikania, Willd.**

scandens, (L.), Willd.

**Kuhnia, L.**

eupatorioides, L.

**Liatris, Schreb.**

graminifolia, Pursh.

var. dubia, (Bart.), Gray.

scariosa, (L.), Willd.

spicata, (L.), Willd.

**Chrysopsis, Nutt.**

falcata, (Pursh), Ell.

Mariana, (L.), Nutt.

**Bigelovia, DC.**

nudata, (Michx.), DC.

var. virgata, (Nutt.), T. & G.

**Solidago, L.**

arguta, Ait. (*S. Muhlenbergii, T. & G.*)

bicolor, L.

var. hispida, (Muhl.) (*var. concolor, T. & G.*)
cæsia, L.
Canadensis, L.
var. procera, (Ait.), T. & G.
var. scabra, (Muhl.), T. & G.
Caroliniana, (L.) (*S. tenuifolia, Pursh*).
Elliottii, T. & G. (*S. elliptica, Gray, not Ait.*)
juncea, Ait. (*S. arguta, T. & G., not Ait.*)
lanceolata, L.
latifolia, L.
macrophylla, Pursh. (*S. thyrsoidea, E. Meyer.*)
neglecta, T. & G.
var. uniligulata, (Nutt.) (*S. linoides, T. & G., not Soland.*)
nemoralis, Ait.
odora, Ait.
var. inodora, Gray.
patula, Muhl.
pilosa, Walt.
puberula, Nutt.
rigida, L.
rugosa, Mill. (*S. altissima, T. & G., not L.*)
sempervirens, L.
serotina, Ait. (*S. gigantea, Gray, Manual.*)
var. gigantea, (Ait.), Gray. (*S. serotina, Gray, Manual.*)
speciosa, Nutt.
var. angustata, T. & G.
squarrosa, Muhl.
stricta, Ait. (*S. virgata, Michx.*)
uliginosa, Nutt. (*S. stricta, T. & G., not Ait.*)
ulmifolia, Muhl.

**Sericocarpus, Nees.**

asteroides, (L.) (*S. conyzoides, Nees.*)
linifolius, (L.) (*S. solidagineus, Nees.*)

**Aster, L.**

acuminatus, Michx.
amethystinus, Nutt.
concolor, L.
cordifolius, L.
var. lævigatus, Porter.
cornifolius, Muhl. (*Diplopappus cornifolius, Darl.*)
corymbosus, Ait.
diffusus, Ait. (*A. miser, T. & G., not Ait., nor L.*)

dumosus, L.
var. coridifolius, (Michx.), T. & G.
ericoides, L.
gracilis, Nutt. (*A. surculosus, Michx., var. gracilis, Gray.*)
lævis, L.
linariifolius, L. (*Diplopappus linariifolius, Hook.*)
macrophyllus, L.
multiflorus, Ait.
nemoralis, Ait.
Novæ-Angliæ, L.
var. roseus, (Desf.), DC.
Novi-Belgii, L. (*A. longifolius, Gray, Manual.*)
var. elodes, (T. & G.), Gray.
var. litoreus, Gray.
paniculatus, Lam. (*A. simplex, Willd.*)
patens, Ait.
var. phlogifolius, (Muhl.), Nees.
polyphyllus, Willd.
prenanthoides, Muhl.
puniceus, L.
radula, Ait.
sagittifolius, Willd.
salicifolius, Ait.
spectabilis, Ait.
subulatus, Michx. (*A. linifolius, T. & G., not L.*)
surculosus, Michx.
tenuifolius, L. (*A. flexuosus, Nutt.*)
Tradescanti, L.
umbellatus, Mill. (*Diplopappus umbellatus, T. & G.*)
var. humilis, (Willd.) (*Diplopappus amygdalinus, T. & G.*)
undulatus, L.
vimineus, Lam. (*A. Tradescanti, T. & G., not L.*)

**Erigeron, L.**

annuus, (L.), Pers.
bellidifolius, Muhl.
Canadensis, L.
Philadelphicus, L.
ramosus, (Walt.) (*E. strigosus, Muhl.*)
var. discoideus, (Robbins).

**Baccharis, L.**

halimifolia, L.

**Pluchea, Cass.**

camphorata, (L.), DC. (*Includes P. fœtida, DC.*)

fœtida, (L.) (*P. bifrons, DC.*)

**Filago, L.**

*Germanica, L.*

**Antennaria, Gærtn.**

plantaginifolia, (L.), Hook.

**Anaphalis, DC.**

margaritacea. (L.), Benth. & Hook. (*Antennaria margaritacea, R. Br.*)

**Gnaphalium, L.**

decurrens, Ives.

obtusifolium, L. (*G. polycephalum, Michx.*)

purpureum, L.

uliginosum, L.

**Inula, L.**

*Helenium, L.*

**Polymnia, L.**

Canadensis, L.

Uvedalia, L.

**Silphium, L.**

*perfoliatum, L.*

**Iva, L.**

frutescens, L.

**Ambrosia, L.**

artemisiæfolia, L.

trifida, L.

var. integrifolia, (Muhl.), T. & G.

**Xanthium, L.**

Canadense, Mill., var. echinatum, (Murr.), Gray. (*X. strumarium, L., var. echinatum, Gray.*)

*spinosum, L.*

*strumarium, L.*

**Heliopsis, Pers.**

helianthoides, (L.) (*H. lævis, Pers.*)

**Eclipta, L.**

*alba, (L.), Hassk.* (*E. procumbens, Michx.*)

**Rudbeckia, L.**

fulgida, Ait.

*hirta, L.*

laciniata, L.

*speciosa, Wender.*

*triloba, L.*

**Helianthus, L.**

angustifolius, L.
*annuus, L.*
decapetalus, L.
divaricatus, L.
giganteus, L.
var. ambiguus, T. & G.
strumosus, L.
tracheliifolius, Willd.
*tuberosus, L.* (*Includes H. doronicoides, T. & G., not Lam.*)

**Actinomeris, Nutt.**

alternifolia, (L.), DC. (*A. squarrosa, Nutt.*)

**Coreopsis, L.**

bidentoides, Nutt.
discoidea, T. & G.
lanceolata, L.
rosea, Nutt.
trichosperma, Michx.

**Bidens, L.**

Beckii, Torr.
bipinnata, L.
cernua, L.
connata, Muhl.
frondosa, L.
lævis, (L.) (*B. chrysanthemoides, Michx.*)

**Galinsoga, Ruiz & Pav.**

*parviflora, Cav.*

**Helenium, L.**

autumnale, L.
parviflorum, Nutt.

**Achillea, L.**

*Millefolium, L.*

**Anthemis, L.**

*arvensis, L.*
*Cotula, L.* (*Maruta Cotula, DC.*)
*nobilis, L.*
*tinctoria, L.*

**Chrysanthemum, L.**

*Leucanthemum, L.* (*Leucanthemum vulgare, Lam.*)
*Parthenium, (L.), Pers.*

**Matricaria, L.**

*Chamomilla, L.*
*inodora, L.*

**Tanacetum, L.**
*vulgare, L.*
**Artemisia, L.**
*Absinthium, L.*
*biennis, Willd.*
caudata, Michx.
*vulgaris, L.*
**Tussilago, L.**
*Farfara, L.*
**Petasites, Gærtn.**
*vulgaris, Desf.*
**Arnica, L.**
acaulis, (Walt.) (*A. nudicaulis, Nutt.*)
**Erechtites, Raf.**
hieracifolia, (L.), Raf.
**Senecio, L.**
aureus, L.
var. Balsamitæ, (Muhl.), T. & G.
var. obovatus, (Muhl.), T. & G.
*Cineraria, DC.*
tomentosus, Michx.
*vulgaris, L.*
**Cacalia, L.**
atriplicifolia, L.
reniformis, Muhl.
suaveolens, L.
**Arctium, L.**
*Lappa, L.* (*Lappa officinalis, All.*)
*var. tomentosum, (Pers.), Gray.*
**Carduus, L.**
*nutans, L.*
**Cnicus, L.** (*Cirsium, DC.*)
altissimus, (L.), Willd.
var. discolor, (Muhl.), Gray. (*C. discolor, Spreng.*)
*arvensis, (L.), Hoffm.*
*lanceolatus, (L.), Hoffm.*
muticus, (Michx.), Pursh.
odoratus, (Muhl.) (*Cirsium pumilum, Spreng.*)
spinosissimus, (Walt.), Darl. (*C. horridulum, Michx.*)
**Onopordon, L.**
*acanthium, L.*
**Centaurea, L.**
*Calcitrapa,* L.

*Cyanus, L.*
*nigra, L.*

**Cichorium, L.**
*Intybus, L.*

**Krigia, Schreb.**
amplexicaulis, (Michx.), Nutt. (*Cynthia Virginica, Don.*)
Virginica, (L.), Willd.

**Lapsana, L.**
*communis, L.*

**Crepis, L.**
*biennis, L.*
*virens, L.*
*tectorum, L.*

**Hieracium, L.**
*aurantiacum, L.*
Canadense, Michx.
Gronovii, L.
Marianum, Willd.
*murorum, L.*
paniculatum, L.
scabrum, Michx.
venosum, L.

**Leontodon, L.**
*autumnale, L.*

**Taraxacum, Hall.**
*officinale, Web.* (*T. Dens-leonis, Desf.*)

**Lactuca, L.** (*Includes Mulgedium, Cass.*)
Canadensis, L.
Floridana, (L.), Gærtn.
hirsuta, Muhl. (*L. Canadensis, L., var. sanguinea, T. & G.*)
integrifolia, Bigel. (*L. Canadensis, L., var. integrifolia, Gray.*)
leucophæa, (Willd.), Gray. (*M. leucophæum, DC.*)
*Scariola, L.*
villosa, (Jacq.) (*M. acuminatum, DC.*)

**Prenanthes, L.** (*Includes Nabalus, Cass.*)
alba, L.
altissima, L.
autumnalis, Walt. (*N. virgatus, DC.*)
racemosa, Michx.
var. pinnatifida, Gray.
serpentaria, Pursh. (*N. Fraseri, DC.*)

**Sonchus, L.**
*arvensis, L.*

*asper, Vill.*
*oleraceus, L.*

**Tragopogon, L.**
*porrifolius, L.*
*pratensis, L.*

CAMPANULACEÆ.

**Lobelia, L.**
Canbyi, Gray.
cardinalis, L.
Dortmanna, L.
inflata, L.
Kalmii, L.
Nuttallii, Rœm. & Schult.
puberula, Michx.
spicata, Lam.
syphilitica, L.

**Campanula, L.**
Americana, L.
aparinoides, Pursh.
*glomerata, L.*
*rapunculoides, L.*
rotundifolia, L.

**Specularia, Heist.**
perfoliata, (L.), A. DC.

VACCINIACEÆ.

**Gaylussacia, HBK.**
dumosa, (Andr.), T. & G.
var. hirtella, (Ait.), Gray.
frondosa, (L.), T. & G.
resinosa, (Ait.), T. & G.

**Vaccinium, L.**
Canadense, Kalm.
corymbosum, L.
var. amœnum, (Ait.), Gray.
var. disocarpum, (Bigel.) (*var. atrococcum, Gray.*)
Pennsylvanicum, Lam.
stamineum, L.
vacillans, Soland.

**Oxycoccus, Pers.**
macrocarpus, Pers. (*V. macrocarpon, Ait.*)
palustris, Pers. (*V. Oxycoccus, L.*)

**Chiogenes, Salisb.**
hispidula, (L.), T. & G.

ERICACEÆ.

**Arctostaphylos, Adans.**
Uva-ursi, (L.), Spreng.

**Gaultheria, L.**
procumbens, L.

**Cassandra, Don.**
calyculata, (L.), Don.

**Leucothoë, Don.**
racemosa, (L.), Gray.

**Epigæa, L.**
repens, L.

**Andromeda, L.**
ligustrina, Muhl.
Mariana, L.
Polifolia, L.

**Kalmia, L.**
angustifolia, L.
glauca, Ait.
latifolia, L.

**Leiophyllum, Pers.**
buxifolium, (Berg.), Ell.

**Ledum, L.**
latifolium, Ait.

**Rhododendron, L.**
Canadense, (L.) (*Rhodora Canadensis, L.*)
maximum, L.
nudiflorum, (L.), Torr. (*Azalea nudiflora, L.*)
viscosum, (L.), Torr. (*A. viscosa, L.*)
var. glaucum, (Lam.), Gray.
var. nitidum, (Pursh), Gray.

**Pyrola, L.**
chlorantha, Sw.
elliptica, Nutt.
oxypetala, Austin.
rotundifolia, L.
var. asarifolia, (Michx.), Hook.
secunda, L.

**Moneses, Salisb.**
uniflora, (L.), Gray.

**Chimaphila, Pursh.**
maculata, (L.), Pursh.
umbellata, (L.), Nutt.

**Clethra, L.**
alnifolia, L.

MONOTROPEÆ.

**Pterospora, Nutt.**
andromedea, Nutt.
**Monotropa, L.**
uniflora, L.
**Hypopitys, L.**
Monotropa, Crantz. (*M. Hypopitys, L.*)

DIAPENSIACEÆ.

**Pyxidanthera, Michx.**
barbulata, Michx.

PLUMBAGINEÆ.

**Statice, L.**
Limonium, L., var. Caroliniana, Gray.

PRIMULACEÆ.

**Hottonia, L.**
inflata, Ell.
**Lysimachia, L.**
*nummularia, L.*
quadrifolia, L.
terrestris, (L.) (*L. stricta, Ait.*)
thyrsiflora, L.
*vulgaris, L.*
**Steironema, Raf.**
ciliatum, (L.), Raf. (*Lysimachia ciliata, L.*)
lanceolatum, (Walt.), Gray. (*L. lanceolata, Walt.*)
var. angustifolium, (Lam.), Gray.
var. hybridum, (Michx.), Gray.
**Trientalis, L.**
Americana, (Pers.), Pursh.
**Anagallis, L.**
*arvensis, L.*
**Samolus, L.**
*Valerandi, L.*
var. floribundus, (HBK.) (*var. Americanus, Gray.*)

EBENACEÆ.

**Diospyros, L.**
Virginiana, L.

## OLEACEÆ.

**Fraxinus, L.**
- Americana, L.
- pubescens, Lam.
- sambucifolia, Lam.
- viridis, Michx. f.

**Chionanthus, L.**
- Virginica, L.

**Ligustrum, L.**
- *vulgare, L.*

## APOCYNACEÆ.

**Vinca, L.**
- *minor, L.*

**Apocynum, L.**
- androsæmifolium, L.
- cannabinum, L.
  - var. hypericifolium, (Ait.), Gray.
  - var. pubescens, (R. Br.), DC.

## ASCLEPIADEÆ.

**Acerates, Ell.**
- viridiflora, (Raf.), Ell.
  - var. lanceolata, (Ives), Gray.

**Asclepias, L.**
- exaltata, (L.), Muhl. (*A. phytolaccoides, Pursh.*)
- incarnata, L.
  - var. pulchra, (Ehrh.), Pers.
- lanceolata, Walt. (*A. paupercula, Michx.*)
- obtusifolia, Michx.
- purpurascens, L.
- quadrifolia, L.
- rubra, L.
- Syriaca, L. (*A. Cornuti, Decne.*)
- tuberosa, L.
- variegata, L.
- verticillata, L.

**Vincetoxicum, Mœnch.**
- *nigrum, (L.), Mœnch.*

**Gonolobus, Michx.**
- lævis, Michx., var. macrophyllus, (Michx.), Gray.
- obliquus, (Jacq.), R. Br.

LOGANIACEÆ.

**Polypremum, L.**
*procumbens, L.*

GENTIANEÆ.

**Erythræa, Rich.**
*ramosissima, Pers.* (*Includes var. pulchella, Griseb.*)

**Sabbatia, Adans.**
angularis, (L.), Pursh.
dodecandra, (L.) (*S. chloroides, Pursh.*)
gracilis, (Michx.), Salisb.
lanceolata, (Walt.), T. & G.
stellaris, Pursh.

**Gentiana, L.**
alba, Muhl.
Andrewsii, Griseb.
angustifolia, Michx.
crinita, Frœl.
linearis, Frœl. (*G. Saponaria, L., var. linearis, Gray.*)
quinquefolia, L. (*G. quinquefiora, Lam.*)
Saponaria, L.
villosa, L. (*G. ochroleuca, Frœl.*)

**Halenia, Borkh.**
deflexa, (Smith), Griseb.

**Obolaria, L.**
Virginica, L.

**Bartonia, Muhl.**
Virginica, (L.) (*B. tenella, Muhl.*)

**Menyanthes, L.**
trifoliata, L.

**Limnanthemum, Gmel.**
lacunosum, (Vent.), Griseb.

POLEMONIACEÆ.

**Phlox, L.**
divaricata, L.
maculata, L.
*paniculata, L.*
pilosa, L.
reptans, Michx.
subulata, L.

**Polemonium, L.**
cæruleum, L.
reptans, L.

HYDROPHYLLACEÆ.

**Hydrophyllum, L.**
Canadense, L.
Virginicum, L.
**Ellisia, L.**
Nyctelea, L. (*Includes E. ambigua, Nutt.*)

BORRAGINEÆ.

**Heliotropium, L.**
*Europæum, L.*
**Cynoglossum, L.**
*officinale, L.*
Virginicum, L.
**Echinospermum, Sw.**
*Lappula, (L.), Lehm.*
Virginianum, (L.) (*Cynoglossum Morrisoni, DC.*)
**Asperugo, L.**
*procumbens, L.*
**Symphytum, L.**
*officinale, L.*
**Lycopsis, L.**
*arvensis, L.*
**Mertensia, Roth.**
Virginica, (L.), DC.
**Myosotis, L.**
*arvensis, (L.), Willd.*
laxa, Lehm. (*M. palustris, Relh., var. laxa, Gray.*)
*palustris, Relh.*
Virginica, (L.) (*M. verna, Nutt.*)
**Onosmodium, Michx.**
Virginianum, (L.), DC.
**Lithospermum, L.**
*arvense, L.*
canescens, (Michx.), Lehm.
latifolium, Michx.
*officinale, L.*
**Echium, L.**
*vulgare, L.*

CONVOLVULACEÆ.

**Ipomœa, L.**
*coccinea, L.*
*Nil, (L.), Pursh, not Roth.*

pandurata, (L.), Meyer.
*purpurea*, (*L.*), *Lam.*

**Convolvulus, L.**
*arvensis*, *L.*
sepium, L. (*Calystegia sepium*, *R. Br.*, *in part.*)
var. Americanus, Sims. (*Calys. sepium*, *R. Br.*, *in part.*)
var. repens, (L.), Gray. (*var. pubescens*, *Gray.*)
spithamæus, L. (*Calys. spithamæa*, *Pursh.*)

**Breweria, R. Br.**
Pickeringii, (Torr.), Gray. (*Bonamia Pickeringii*, *Gray.*)

**Cuscuta, L.**
arvensis, Beyrich.
Cephalanthi, Engelm. (*C. tenuiflora*, *Engelm.*).
compacta, Juss.
Coryli, Engelm. (*C. inflexa*, *Engelm.*)
*Epilinum*, *Weihe.*
Gronovii, Willd.

## SOLANACEÆ.

**Solanum, L.**
Carolinense, L.
*Dulcamara*, *L.*
*nigrum*, *L.*
*rostratum*, *Dun.*

**Physalis, L.**
angulata, L.
Philadelphica, Lam.
pubescens, L.
Virginiana, Mill. (*P. viscosa*, *Gray*, *not L.*)

**Nicandra, Adans.**
*physaloides*, (*L.*), *Gærtn.*

**Lycium, L.**
*vulgare*, (*Ait.*), *Dun.*

**Datura, L.**
*Stramonium*, *L.*
*Tatula*, *L.*

**Hyoscyamus, L.**
*niger*, *L.*

**Nicotiana, L.**
*rustica*, *L.*

**Petunia, L.**
*axillaris*, (*Lam.*) (*P. nyctaginiflora*, *Juss.*)

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## SCROPHULARINEÆ.

**Verbascum, L.**

*Blattaria, L.*
*Lychnitis, L.*
*Thapsus, L.*

**Linaria, Juss.**

Canadensis, (L.), Dumont.
*Elatine, Mill.*
*genistifolia, (L.), Mill.*
*vulgaris, Mill.*

**Scrophularia, L.**

nodosa, L., var. Marylandica, (L.), Gray.

**Chelone, L.**

glabra, L.

**Pentstemon, Mitch.**

hirsutus, (L.), Willd. (*P. pubescens, Soland.*)
lævigatus, Soland., var. Digitalis, (Nutt.), Gray. (*P. Digitalis, Nutt.*)

**Mimulus, L.**

alatus, Soland.
*moschatus, Dougl.*
ringens, L.

**Conobea, Aubl.**

*multifida, (Michx.), Benth.*

**Herpestis, Gærtn, f.**

Caroliniana, (Walt.) (*H. amplexicaulis, Pursh.*) (*Southern N. J. ?*)

**Gratiola, L.**

aurea, Muhl.
pilosa, Michx.
sphærocarpa, Ell.
Virginiana, L.

**Ilysanthes, Raf.**

gratioloides, (L.), Benth.

**Micranthemum, Michx.**

Nuttallii, Gray.

**Limosella, L.**

aquatica, L., var. tenuifolia, (Nutt.), Hoffm.

**Veronica, L.**

*agrestis, L.*
Americana, Schwein.
Anagallis, L.

var. latifolia, Britton.
*arvensis, L.*
*Byzantina,* (*Sibth. & Smith.*) (*V. Buxbaumii, Ten.*)
*Chamædrys, L.*
*hederæfolia, L.*
officinalis, L.
peregrina, L.
scutellata, L.
serpyllifolia, L.
Virginica, L.

**Buchnera, L.**
Americana, L.

**Gerardia, L.**
*auriculata, Michx.*
flava, L.
maritima, Raf.
pedicularia, L.
purpurea, L.
var. paupercula, Gray.
tenuifolia, Vahl.
Virginica, (L.) (*G. quercifolia, Pursh.*)

**Castilleja, L. f.**
coccinea, (L.), Spreng.

**Schwalbea, L.**
Americana, L.

**Pedicularis, L.**
Canadensis, L.
lanceolata, Michx.

**Rhinanthus, L.**
Crista-galli, L.

**Melampyrum, L.**
lineare, Lam. (*M. Americanum, Michx.*)

## OROBANCHACEÆ.

**Aphyllon, Mitch.**
uniflorum, (L.), Gray.

**Orobanche, L.**
*minor, L.*

**Conopholis, Wallr.**
Americana, (L. f.), Wallr.

**Epiphegus, Nutt.**
Virginiana, (L.), Bart.
var. Rauana, Austin.

LENTIBULARIEÆ.

**Utricularia, L.**

clandestina, Nutt.
cornuta, Michx.
fibrosa, Walt. (*U. striata, Le Conte.*)
gibba, L.
inflata, Walt.
intermedia, Hayne.
minor, L.
purpurea, Walt.
resupinata, B. D. Greene.
subulata, L.
var. cleistogama, Gray.
vulgaris, L. (*Includes var. Americana, Gray.*)

BIGNONIACEÆ.

**Catalpa, Juss.**

*bignonioides, Walt.* (Native within the circle?)

**Tecoma, Juss.**

radicans, (L.), Juss.

PEDALINEÆ.

**Martynia, L.**

*proboscidea, Glox.*

ACANTHACEÆ.

**Ruellia, L.**

ciliosa, Pursh, var. hybrida, (Pursh), Gray.

**Dianthera, L.**

Americana, L.

VERBENACEÆ.

**Phryma, L.**

Leptostachya, L.

**Lippia, L.**

lanceolata, Michx.

**Verbena, L.**

angustifolia, Michx.
*bracteosa, Michx.*
hastata, L.
*officinalis, L.*
*stricta, Vent.*
urticæfolia, L.

LABIATÆ.

**Collinsonia, L.**

Canadensis, L.

**Mentha, L.**

*aquatica, L.* (*Includes var. glabrata, Benth.*)

*var. crispa,* (*L.*), *Benth.*

*arvensis, L.*

Canadensis, L.

var. borealis, (Michx.), Wood. (*var. glabrata, Benth.*)

*piperita, L.*

*var. subhirsuta, Benth.*

*rotundifolia, L.*

*sativa, L.*

*sylvestris, L.*

*var. alopecuroides,* (*Hull*), *Baker.*

*viridis, L.*

**Lycopus, L.**

*Europœus, L.*

rubellus, Mœnch. (*L. Europœus, L., var. integrifolius, Gray.*)

sessilifolius, Gray. (*L. Europœus, L., var. sessilifolius, Gray.*)

sinuatus, Ell. (*L. Europœus, L., var. sinuatus, Gray.*)

Virginicus, L.

**Cunila, L.**

Mariana, L.

**Pycnanthemum, Michx.**

aristatum, Michx.

clinopodioides, T. & G.

flexuosum, (Walt.) (*P. linifolium, Pursh.*)

incanum, (L.), Michx.

muticum, (Michx.), Pers.

Torreyi, Benth.

Virginicum, (L.) (*P. lanceolatum, Pursh.*)

**Origanum, L.**

*vulgare, L.*

**Thymus, L.**

*Serpyllum, L.*

**Satureia, L.**

*hortensis, L.*

**Hyssopus, L.**

*officinalis, L.*

**Hedeoma, Pers.**

pulegioides, (L.), Pers.

**Calamintha, Mœnch.**

Clinopodium, Benth.

**Melissa, L.**

*officinalis, L.*

**Salvia, L.**
lyrata, L.
**Monarda, L.**
didyma, L.
fistulosa, L.
punctata, L.
**Blephilia, Raf.**
ciliata, (L.), Raf.
hirsuta, (Pursh), Benth.
**Lophanthus, Benth.**
nepetoides, (L.), Benth.
scrophulariæfolius, (Willd.), Benth.
**Nepeta, L.**
*Cataria, L.*
*hederacea, (L.)* (*N. Glechoma, Benth.*)
**Scutellaria, L.**
cordifolia, Muhl. (*S. versicolor, Nutt.*)
galericulata, L.
integrifolia, L.
lateriflora, L.
nervosa, Pursh.
parvula, Michx.
pilosa, Michx.
var. ovalifolia, (Pers.), Benth.
serrata, Andr.
**Brunella, L.**
*vulgaris, L.*
**Physostegia, Benth.**
*Virginiana, (L.), Benth.*
**Marrubium, L.**
*vulgare, L.*
**Stachys, L.**
*arvensis, L.*
aspera, Michx. (*S. palustris, L., var. aspera, Gray.*)
*cordata, Ridd.* (*S. palustris, L., var. cordata, Gray.*)
hyssopifolia, Michx.
palustris, L.
**Galeopsis, L.**
*Ladanum, L.*
*Tetrahit, L.*
**Leonurus, L.**
*Cardiaca, L.*

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*Marrubiastrum*, *L.*
*Sibiricus*, *L.*

**Lamium, L.**
*album*, *L.*
*amplexicaule*, *L.*
*purpureum*, *L.*

**Ballota, L.**
*nigra*, *L.*

**Trichostema, L.**
dichotomum, L.
lineare, Nutt.

**Isanthus, Michx.**
brachiatus, (L.) (*I. cæruleus*, *Michx.*)

**Teucrium, L.**
Canadense, L.
occidentale, Gray.

**Ajuga, L.**
*reptans*, *L.*

PLANTAGINEÆ.

**Plantago, L.**
cordata, Lam.
decipiens, Barn. (*P. maritima*, *L.*, *var. juncoides*, *Gray.*)
elongata, Pursh. (*P. pusilla*, *Nutt.*)
heterophylla, Nutt.
*lanceolata*, *L.*
*major*, *L.*
var. minima, (DC.), Decne
*Patagonica*, *Jacq.*, *var. aristata*, (*Michx.*), *Gray.*
Rugelii, Decne. (*P. Kamtschatica*, *Gray*, *not Cham.*)
Virginica, L.

ILLECEBRACEÆ.

**Anychia, Rich.**
Canadensis, (L.) (*A. capillacea*, *DC.*)
dichotoma, Michx.

**Scleranthus, L.**
*annuus*, *L.*

AMARANTACEÆ.

**Amarantus, L.**
*albus*, *L.*
*Blitum*, *L.*
*chlorostachys*, *Willd.* (*A. retroflexus*, *L.*, *var. chlorostachys*, *Gray.*)
*hybridus*, *L.* (*A. retroflexus*, *L.*, *var. hybridus*, *Gray.*)

*hypochondriacus*, *L.*
*paniculatus*, *L.*
pumilus, Raf.
*retroflexus*, *L.*
*spinosus*, *L.*
*viridis*, *L.*

**Acnida, L.**

cannabina, L.
tuberculata, Moq. (*Montelia tamariscina*, *Gray*, *in part.*)

CHENOPODIACEÆ.

**Cycloloma, Moq.**

*platyphyllum*, (*Michx.*), *Moq.*

**Chenopodium, L.**

*album*, *L.*
*ambrosioides*, *L.*
*var. anthelminticum*, (*L.*), *Gray.*
*Bonus-Henricus*, *L.* (*Blitum Bonus-Henricus*, *Reichenb.*)
*Boscianum*, *Moq.* (*C. album*, *L.*, *var. Boscianum*, *Gray.*)
*Botrys*, *L.*
*capitatum*, (*L.*), *S. Wats.* (*B. capitatum*, *L.*)
*glaucum*, *L.*
*hybridum*, *L.*
leptophyllum, Nutt.
*murale*, *L.*
rubrum, L. (*B. maritimum*, *Nutt.*)
*urbicum*, *L.*
*var. rhombifolium*, (*Muhl.*), *Moq.*

**Roubieva, Moq.**

*multifida*, (*L.*), *Moq.* (*C. multifidum*, *L.*)

**Atriplex, L.**

arenaria, Nutt.
patula, L., var. hastata, (L.), Gray.
var. littoralis, (L.), Gray.
*rosea*, *L.*

**Salicornia, L.**

ambigua, Michx. (*S. fruticosa*, *L.*, *var. ambigua*, *Gray.*)
herbacea, L.
mucronata, Bigel. (*S. Virginica*, *Gray*, *not L.*)

**Suæda, Forsk.**

linearis, (Ell.), Torr., var. salsa, (Michx.) (*S. maritima*, *Gray*, *not L.*)

**Salsola, L.**
Kali, L.

PHYTOLACCACEÆ.

**Phytolacca, L.**
decandra, L.

POLYGONACEÆ.

**Polygonum, L.**
acre, HBK.
amphibium, L. (*Includes var. aquaticum, Willd.*)
arifolium, L.
articulatum, L.
aviculare, L.
Careyi, Olney.
cilinode, Michx.
*Convolvulus, L.*
*cuspidatum, Sieb. & Zucc.*
dumetorum, L., var. scandens, (L.), Gray.
erectum, L. (*P. aviculare, L., var. erectum, Roth.*)
Hartwrightii, Gray.
*Hydropiper, L.*
hydropiperoides, Michx.
incarnatum, Ell.
maritimum, L.
*orientale, L.*
Pennsylvanicum, L.
*Persicaria, L.*
ramosissimum, Michx.
sagittatum, L.
tenue, Michx.
terrestre, (Willd.) (*P. amphibium, L., var. terrestre, Willd.*)
Virginianum, L.

**Fagopyrum, Gærtn.**
*esculentum, Mœnch.*

**Rumex, L.**
*Acetosella, L.*
altissimus, Wood. (*R. Britannica, Gray, not L.*)
Britannicus, L. (*P. orbiculatus, Gray.*)
*conglomeratus, Murr.*
*crispus, L.*
hastatulus, Baldw. (*R. Engelmanni, Ledeb.*)
maritimus, L.
*obtusifolius, L.*

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*Patientia, L.*
*verticillatus, L.*

PODOSTEMACEÆ.

**Podostemon, Michx.**
ceratophyllum, Michx.

ARISTOLOCHIACEÆ.

**Asarum, L.**
Canadense, L.
**Aristolochia, L.**
Serpentaria, L.

PIPERACEÆ.

**Saururus, L.**
cernuus, L.

LAURINEÆ.

**Sassafras, Nees.**
officinale, Nees.
**Lindera, Thunb.**
Benzoin, (L.), Meisn.

THYMELÆACEÆ.

**Dirca, L.**
palustris, L.

LORANTHACEÆ.

**Arceuthobium, Rich.**
pusillum, Peck.
**Phoradendron, Nutt.**
flavescens, (Pursh), Nutt.

SANTALACEÆ.

**Comandra, Nutt.**
umbellata, (L.), Nutt.

EUPHORBIACEÆ.

**Euphorbia, L.**
corollata, L.
*Cyparissias, L.*
Darlingtonii, Gray.
*Helioscopia, L.*
hypericifolia, L.
Ipecacuanhæ, L.
*Lathyris, L.*

maculata, L.
polygonifolia, L.

**Phyllanthus, L.**
Carolinensis, Walt.

**Croton, L.**
capitatus, Michx.

**Crotonopsis, Michx.**
linearis, Michx.

**Acalypha, L.**
Caroliniana, Walt.
Virginica, L.
var. gracilens, (Gray), Muell. Arg.

URTICACEÆ.

**Ulmus, L.**
Americana, L.
fulva, Michx.
racemosa, Thomas.

**Celtis, L.**
occidentalis, L.
var. pumila, (Pursh), Gray.

**Humulus, L.**
*Lupulus, L.*

**Cannabis, L.**
*sativa, L.*

**Broussonetia, Vent.**
*papyrifera, (L.), Vent.*

**Morus, L.**
*alba, L.*
rubra, L.

**Urtica, L.**
*dioica, L.*
gracilis, Ait.
*urens, L.*

**Laportea, Gaudich.**
Canadensis, (L.), Gaudich.

**Pilea, Lindl.**
pumila, (L.), Gray.

**Boehmeria, Jacq.**
cylindrica, (L.), Willd.
var. scabra, Porter.

**Parietaria, L.**
Pennsylvanica, Muhl.

PLATANACEÆ.

**Platanus, L.**

occidentalis, L.

JUGLANDEÆ.

**Carya, Nutt.**

alba, (L.) (*C. tomentosa, Nutt.*)
glabra, (Mill.), Torr. (*C. porcina, Nutt.*)
microcarpa, Nutt.
minima, (Marsh.) (*C. amara, Nutt.*)
ovata, (Mill.) (*C. alba, Nutt.*)
sulcata, (Willd.), Nutt.

**Juglans, L.**

cinerea, L.
nigra, L.

MYRICACEÆ.

**Myrica, L.**

asplenifolia, (L.), Banks. (*Comptonia asplenifolia, Ait.*)
cerifera, L.
Gale, L.

CUPULIFERÆ.

**Betula, L.**

alba, L., var. populifolia, (Marsh.), Spach.
lenta, L.
lutea, Michx. f.
nigra, L.
papyrifera, Marsh. (*B. papyracea, Ait.*)
pumila, L.

**Alnus, Gærtn.**

incana, (L.), Willd.
*glutinosa, Willd.*
serrulata, Willd.

**Carpinus, L.**

Caroliniana, Walt. (*C. Americana, Michx.*)

**Ostrya, Scop.**

Virginiana, (Mill.) (*O. Virginica, Willd.*)

**Corylus, L.**

Americana, Walt.
rostrata, Ait.

**Quercus, L.**

alba, L.
bicolor, Willd.
coccinea, Wang.

falcata, Michx.
heterophylla, Michx. f.
ilicifolia, Wang.
imbricaria, Michx.
macrocarpa, Michx.
Muhlenbergii, Engelm. (*Q. Prinus, L., var. acuminata, Michx.*)
var. humilis, (Marsh.), Britton. (*Q. prinoides, Willd.*)
nigra, L.
palustris, Du Roi.
Phellos, L.
Prinus, L. (*Includes var. monticola, Michx.*)
rubra, L.
Rudkinii, Britton.
stellata, Wang. (*Q. obtusiloba, Michx.*)
tinctoria, Bartr. (*Q. coccinea, Wang., var. tinctoria, Gray.*)

**Castanea, Gærtn.**

pumila, Mill.
vulgaris, Lam., var. Americana, (Michx.), DC. (*C. vesca, Gærtn., var. Americana, Michx.*)

**Fagus, L.**

ferruginea, Ait.

SALICINEÆ.

**Salix, L.**

*alba, L.*
*var. vitellina*, (*L.*), *Koch.*
*Babylonica, L.*
candida, Willd.
cordata, Muhl.
var. angustata, (Pursh), Anders.
discolor, Muhl.
*fragilis, L.*
humilis, Muhl.
longifolia, Muhl.
lucida, Muhl.
myrtilloides, L.
nigra, Marsh.
petiolaris, Smith.
*purpurea, L.*
rostrata, Richards. (*S. livida, Wahl., var. occidentalis, Gray.*)
sericea, Marsh.
tristis, Ait.
*viminalis, L.*

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**Populus, L.**
*alba, L.*
balsamifera, L.
var. candicans, (Ait.), Gray.
*dilatata, L.*
grandidentata, Michx.
heterophylla, L.
monilifera, Ait. (*Includes P. angulata, Ait.*)
*nigra, L.*
tremuloides, Michx.

EMPETRACEÆ.

**Corema, Don.**
Conradii, Torr.

CERATOPHYLLEÆ.

**Ceratophyllum, L.**
demersum, L.
var. echinatum, Gray.

HYDROCHARIDEÆ.

**Elodea, Michx.**
Canadensis, Michx. (*Anacharis Canadensis, Planch.*)
**Vallisneria, L.**
spiralis, L.
**Limnobium, Rich.**
Spongia, Rich.

ORCHIDEÆ.

**Microstylis, Nutt.**
monophylla, (L.), Lindl.
unifolia, (Michx.) (*M. ophioglossoides, Nutt.*)
**Liparis, Rich.**
liliifolia, (L.), Rich.
Lœselii, (L.), Rich.
**Aplectrum, Nutt.**
spicatum, (Walt.) (*A. hiemale, Nutt.*)
**Corallorhiza, R. Br.**
innata, R. Br.
multiflora, Nutt.
odontorhiza, (Sw.), Nutt.
**Tipularia, Nutt.**
unifolia, (Muhl.) (*T. discolor, Nutt.*)
**Listera, R. Br.**
australis, Lindl.

convallarioides, (Sw.), Nutt.
cordata, (L.), R. Br.

**Spiranthes, Rich.**

cernua, (L.), Rich.
gracilis, Bigel.
graminea, Lindl., var. præcox, (Walt.) (*var. Walteri, Gray.*)
latifolia, Torr.
simplex, Gray.

**Goodyera, R. Br.**

pubescens, (Willd.), R. Br.
repens, (L.), R. Br.

**Arethusa, L.**

bulbosa, L.

**Calopogon, R. Br.**

tuberosus, (L.) (*C. pulchellus, R. Br.*)

**Pogonia, Juss.**

affinis, Austin.
divaricata, (L.), R. Br.
ophioglossoides, (L.), Ker.
trianthophorus, (Sw.) (*P. pendula, Lindl.*)
verticillata, (Willd.), Nutt.

**Orchis, L.**

rotundifolia, Pursh. (*Habenaria rotundifolia, Richards.*)
spectabilis, L.

**Habenaria, Willd.**

blephariglottis, (Willd.), Torr.
ciliaris, (L.), R. Br.
cristata, (Michx.), R. Br.
dilatata, (Pursh), Gray.
fimbriata, (Ait.), R. Br.
flava, (L.), Gray. (*H. virescens, Spreng.*)
Hookeriana, Torr. (*H. Hookeri, Torr.*)
var. oblongifolia, Paine.
hyperborea, (L.), R. Br.
integra, (Nutt.), Spreng.
lacera, (Michx.), R. Br.
orbiculata, (Pursh), Torr.
peramœna, Gray.
psycodes, (L.), Gray.
tridentata, (Willd.), Hook.
viridis, (Sw.), R. Br., var. bracteata, (R. Br.), Reichenb.

**Cypripedium, L.**

acaule, Ait.

arietinum, R. Br.
candidum, Muhl.
parviflorum, Salisb.
pubescens, Willd.
spectabile, Sw.

HÆMODORACEÆ.

**Lachnanthes, Ell.**
tinctoria, (Walt.), Ell.

**Lophiola, Ker.**
tomentosa, (Muhl.) (*L. aurea, Ker.*)

**Aletris, L.**
aurea, Walt.
farinosa, L.

IRIDEÆ.

**Iris, L.**
versicolor, L.
prismatica, Pursh. (*I. Virginica, Gray, not L.*)

**Belamcanda, Adans.**
*Chinensis*, (*L.*), *Red.* (*Pardanthus Chinensis, Ker.*)

**Sisyrinchium, L.**
angustifolium, Mill. (*S. Bermudiana, Gray, not L.*)
mucronatum, Michx. (*S. Bermudiana, var. mucronatum, Gray.*)

AMARYLLIDEÆ.

**Hypoxys, L.**
erecta, L.

DIOSCOREACEÆ.

**Dioscorea, L.**
villosa, L.

LILIACEÆ.

**Smilax, L.**
bona-nox, L. (*S. tamnoides, L.*)
glauca, Walt.
herbacea, L.
var. pulverulenta, (Michx.), Gray.
hispida, Muhl.
laurifolia, L.
Pseudo-China, L.
rotundifolia, L.
tamnifolia, Michx.
Walteri, Pursh.

**Asparagus, L.**
*officinalis, L.*

**Polygonatum, Adans.**
biflorum, (Walt.), Ell.
commutatum, (Schult.), Dietr. (*P. giganteum, Dietr.*)
**Streptopus, Michx.**
amplexifolius, (L.), DC.
roseus, (Pers.), Michx.
**Smilacina, Desf.**
racemosa, (L.), Desf.
stellata, (L.), Desf.
trifolia, (L.), Desf.
**Maianthemum, Wiggers.**
Canadense, Desf. (*S. bifolia, Ker, var. Canadensis, Gray.*)
**Convallaria, L.**
*majalis, L.*
**Hemerocallis, L.**
*fulva, L.*
**Allium, L.**
Canadense, Kalm.
tricoccum, Ait.
*vineale, L.*
**Muscari, Mill.**
*botryoides, (L.), Mill.*
*racemosum, (L.), Mill.*
**Ornithogalum, L.**
*nutans, L.*
*umbellatum, L.*
**Lilium, L.**
Canadense, L.
Philadelphicum, L.
superbum, L.
**Erythronium, L.**
albidum, Nutt.
Americanum, Ker.
**Narthecium, Mœhr.**
Americanum, Ker. (*N. ossifragum, Huds., var. Americanum, Gray.*)
**Chamælirium, Willd.**
luteum, (L.), Gray.
**Xerophyllum, Michx.**
asphodeloides, (L.), Spreng.
**Helonias, L.**
bullata, L.

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**Tofieldia, Huds.**
racemosa, (Walt.) (*T. pubens, Pers.*)
**Uvularia, L.**
grandiflora, Smith. (*Includes U. flava, Smith.*)
perfoliata, L.
**Oakesia, S. Wats.**
sessilifolia, (L.), S. Wats.
**Clintonia, Raf.**
borealis, (Ait.), Raf.
**Medeola, L.**
Virginica, L.
**Trillium, L.**
cernuum, L.
erectum, L.
erythrocarpum, Michx.
grandiflorum, (Michx.), Salisb.
**Melanthium, L.**
latifolium, Desrouss.
Virginicum, L.
**Veratrum, L.**
viride, Ait.
**Zygadenus, Michx.**
leimanthoides, Gray.
**Amianthium, Gray.**
muscætoxicum, (Walt.), Gray.

PONTEDERIACEÆ.

**Pontederia, L.**
cordata, L.
var. angustifolia, Pursh.
**Heteranthera, Ruiz & Pav.**
graminea, (Michx.), Vahl. (*Schollera graminea, Willd.*)
reniformis, Ruiz & Pav.

XYRIDEÆ.

**Xyris, L.**
Caroliniana, Walt.
fimbriata, Ell.
flexuosa, Muhl.
var. pusilla, Gray.
torta, Smith.

## COMMELINACEÆ.

**Commelina, L.**

*communis, L.*
hirtella, Vahl.
*nudiflora, L.*
Virginica, L.

**Tradescantia, L.**

*Virginica, L.*

## JUNCACEÆ.

**Juncus, L.**

acuminatus, Michx. (*J. acuminatus, Michx., var. legitimus, Engelm.*)
var. debilis, (Gray), Engelm.
articulatus, L.
*var. obtusatus, Engelm.*
asper, Engelm.
Balticus, Dethard, var. littoralis, Engelm. (*Westchester Co.?*)
bufonius, L.
Canadensis, J. Gay. (*J. Canadensis, J. Gay, var. longicaudatus, Engelm.*)
var. brachycephalus, Engelm.
var. coarctatus, Engelm.
var. subcaudatus, Engelm.
dichotomus, Ell.
effusus, L.
var. conglomeratus, (L.), Engelm.
Gerardi, Lois.
Greenii, Oakes & Tuck.
marginatus, Rostk.
var. biflorus, (Ell.), Engelm.
var. paucicapitatus, Engelm.
maritimus, Lam.
militaris, Bigel.
nodosus, L.
var. megacephalus, Torr.
pelocarpus, E. Meyer.
var. fluitans, (Michx.) (*var. (?) subtilis, Engelm.*)
Rœmerianus, Scheele. (*New Jersey?*)
scirpoides, Lam. (*J. scirpoides, Lam., var. macrostemon, Engelm.*)
tenuis, Willd.
var. secundus, (Poir.), Engelm.
trifidus, L.

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**Luzula, DC.**

campestris, (L.), DC.
pilosa, (L.), Willd.
spadicea, DC., var. melanocarpa, (Desv.), E. Meyer. (*L. parviflora, Desv., var. melanocarpa, Gray.*)

TYPHACEÆ.

**Typha, L.**

angustifolia, L.
latifolia, L.

**Sparganium, L.**

androcladum, (Engelm.), Morong. (*S. simplex, Huds., var. androcladum, Engelm.*)
var. fluctuans, Morong. (*S. simplex, Huds., var. fluitans, Engelm.*)
eurycarpum, Engelm.
simplex, Huds. (*Includes var. Nuttallii, Engelm.*)
var. angustifolium, (Michx.), Engelm.

AROIDEÆ.

**Arisæma, Mart.**

Dracontium, (L.), Schott.
triphyllum, (L.), Torr.

**Peltandra, Raf.**

undulata, Raf.
Virginica, (L.), Raf.

**Calla, L.**

palustris, L.

**Orontium, L.**

aquaticum, L.

**Symplocarpus, Salisb.**

fœtidus, (L.), Salisb.

**Acorus, L.**

Calamus, L.

LEMNACEÆ.

**Lemna, L.**

minor, L.
var. obscura, Austin.
var. orbiculata, Austin.
perpusilla, Torr.
var. trinervis, Austin.
trisulca, L.
Valdiviana, Philippi. (*L. Torreyi, Austin.*)

**Spirodela, Schleid.**
polyrhiza, (L.), Schleid. (*Lemna polyrhiza, L.*)
**Wolffia, Horkel.**
Columbiana, Karst.

ALISMACEÆ.

**Alisma, L.**
Plantago, L., var. triviale, (Pursh). (*var. Americanum, Gray.*)
**Sagittaria, L.**
calycina, Engelm.
var. spongiosa, Engelm.
graminea, Michx.
heterophylla, Pursh.
subulata, (Pursh). (*S. pusilla, Nutt.*)
variabilis, Engelm., var. angustifolia, Engelm.
var. diversifolia, Engelm.
var. gracilis, (Pursh), Engelm.
var. hastata, (Pursh), Engelm.
var. latifolia, (Willd.), Engelm.
var. obtusa, (Willd.), Engelm.
var. pubescens, (Muhl.), Engelm.

NAIADACEÆ.

**Triglochin, L.**
maritimum, L.
palustre, L.
**Scheuchzeria, L.**
palustris, L.
**Potamogeton, L.**
amplifolius, Tuck.
compressus, L.
crispus, L.
fluitans, Roth. (*P. lonchites, Tuck.*)
gramineus, L. (*Includes var. graminifolius, Fries, and var. heterophyllus, Fries.*)
var. maximus, Morong.
var.(?) myriophyllus, Robbins.
hybridus, Michx.
lucens, L.
natans, L.
Oakesianus, Robbins.
obtusifolius, Mart. & Koch.
pauciflorus, Pursh.

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pectinatus, L.
Pennsylvanicus, Cham. (*P. Claytonii, Tuck.*)
perfoliatus, L.
var. lanceolatus, Robbins.
prælongus, Wulf.
pulcher, Tuck.
pusillus, L. (*Includes var. tenuissimus, Mart. & Koch.*)
Robbinsii, Oakes.
rufescens, Schrad.
Spirillus, Tuck.
Tuckermani, Robbins.
Vaseyi, Robbins.
Zizii, Mart. & Koch. (*P. lucens, L., var. minor, Nolte.*)
zosteræfolius, Schum. (*P. compressus, Fries, not L.*)

**Ruppia, L.**
maritima, L.

**Zannichellia, L.**
palustris, L.
var. pedunculata, Gray.

**Zostera, L.**
marina, L.

**Naias, L.**
flexilis, (Willd.), Rostk. & Schmidt.
Indica, Cham., var. gracillima, R. Br.

ERIOCAULEÆ.

**Eriocaulon, L.**
decangulare, L.
gnaphalodes, Michx.
septangulare, With.

CYPERACEÆ.

**Cyperus, L.**
aristatus, Rottb. (*C. inflexus, Muhl.*)
*compressus, L.*
dentatus, Torr.
diandrus, Torr.
var. castaneus, (Bigel.), Torr.
Engelmanni, Steud.
erythrorhizos, Muhl.
esculentus, L. (*C. phymatodes, Muhl.*)
filiculmis, Vahl.
flavescens, L.

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flavicomus, Vahl.
Grayii, Torr.
Lancastriensis, Porter.
Nuttallii, Eddy.
ovularis, (Vahl), Torr.
refractus, Engelm.
retrofractus, Engelm.
speciosus, Vahl. (*C. Michauxianus, Gray, Manual.*)
strigosus, L.
var. capitatus, Bœckl.
var. compositus, Britton.
var. robustior, Kunth.
Torreyi, Britton.

**Dulichium, Pers.**

spathaceum, (L.), Pers.

**Heleocharis, R. Br.** (*Eleocharis, R. Br.*)

acicularis, (L.), R. Br.
diandra, C. Wright.
Engelmanni, Steud.
intermedia, (Muhl.), Schult.
melanocarpa, Torr.
olivacea, Torr.
ovata, (Roth), R. Br. (*Eleocharis obtusa, Schult.*)
palustris, (L.), R. Br.
var. calva, (Torr.), Gray.
var. glaucescens, (Willd.), Gray.
plantaginea, (Retz.), R. Br. (*E. equisetoides, Torr.*)
quadrangulata, (Michx.), R. Br.
Robbinsii, Oakes.
rostellata, Torr.
tenuis, (Willd.), Schult.
Torreyana, Bœckl. (*E. microcarpa, Torr., var. filiculmis, Torr.*)
tricostata, Torr.
tuberculosa, (Michx.), R. Br.

**Dichromena, Michx.**

cephalotes, (Walt.), Britton. (*D. leucocephala, Michx.*)

**Psilocarya, Torr.**

nitens, (Vahl), Britton. (*Rhynchospora nitens, Gray.*)

**Fimbristylis, Vahl.**

autumnalis, (L.), Rœm. & Schult.
capillaris, (L.), Gray.

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castanea, Vahl. (*F. spadicea, Vahl, var. castanea, Gray.*)
laxa, Vahl.
Vahlii, (Lam.), Link. (*F. congesta, Torr.*)

**Scirpus, L.**

atrovirens, Muhl.
debilis, Pursh.
fluviatilis, (Torr.), Gray.
lacustris, L. (*S. validus, Vahl.*)
lineatus, Michx.
maritimus, L.
var. macrostachyos, Michx.
mucronatus, L.
Olneyi, Gray.
parvulus, Rœm. & Schult. (*Eleocharis pygmœa, Torr.*)
planifolius, Muhl.
polyphyllus, Vahl.
pungens, Vahl.
Smithii, Gray.
subterminalis, Torr.
sylvaticus, L.
Torreyi, Olney.

**Eriophorum, L.**

alpinum, L.
cyperinum, L. (*Scirpus Eriophorum, Michx.*)
var. laxum, (Gray). (*S. Eriophorum, Michx., var. laxus, Gray.*)
gracile, Koch. (*Includes var. paucinervium, Engelm.*)
polystachyon, L. (*E. polystachyon, L., var. angustifolium, Gray.*)
var. latifolium, (Hoppe), Gray.
vaginatum, L.
Virginicum, L.

**Fuirena, Rottb.**

squarrosa, Michx.
var. pumila, Torr.

**Hemicarpha, Nees.**

micrantha, (Vahl), Britton. (*H. subsquarrosa, Nees.*)

**Lipocarpha, R. Br.**

maculata, (Michx.), Torr.

**Rhynchospora, Vahl.**

alba, (L.), Vahl.
axillaris, (Lam.), Britton. (*R. cephalantha, Gray.*)
capillacea, Torr.

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Curtisii, Steud. (*R. pallida, M. A. Curtis.*)
cymosa, (Willd.), Nutt.
fusca, (L.), Rœm. & Schult.
glomerata, (L.), Vahl.
gracilenta, Gray.
Knieskernii, Carey.
macrostachya, Torr.
Torreyana, Gray.

**Cladium, P. Br.**

mariscoides, (Muhl.), Torr.

**Scleria, Berg.**

pauciflora, Muhl.
reticularis, Michx.
var. pubescens, Britton.
Torreyana, Walp. (*S. laxa, Torr.*)
triglomerata, Michx.
var. gracilis, Britton.
verticillata, Muhl.

**Carex, L.**

adusta, Boott.
æstivalis, M. A. Curtis.
alopecoidea, Tuck.
aperta, Boott.
aquatilis, Wahl.
arctata, Boott.
aurea, Nutt.
Barrattii, Schw. & Torr.
bromoides, Schk.
bullata, Schk.
Buxbaumii, Wahl.
canescens, L.
var. brunnescens, (Pers.), Boott. (*var. vitilis, Gray.*)
Careyana, Torr.
cephalophora, Muhl.
conjuncta, Boott.
conoidea, Schk.
crinita, Lam.
var. gynandra, (Schw.), Schw. & Torr.
Davisii, Schw. & Torr.
debilis, Michx.
Deweyana, Schw.
digitalis, Willd.

eburnea, Boott.
echinata, Murray. (*C. stellulata, Good.*)
var. conferta, (Chapm.), Bailey.
var. radiata, (Wahl.) (*C. stellulata, Good., vars. scirpoides and angustata, Carey, and C. sterilis, Willd.*)
Emmonsii, Dewey.
exilis, Dewey.
extensa, Good.
filiformis, L.
var. lanuginosa, (Michx.) (*C. lanuginosa, Michx.*)
flava, L.
flexilis, Rudge.
folliculata, L.
formosa, Dewey.
glaucodea, Tuck. (*C. flaccosperma, Gray, not Dewey.*)
gracillima, Schw.
granularis, Muhl.
var. Haleana, Porter.
Grayii, Carey.
grisea, Wahl.
Hitchcockiana, Dewey.
hystricina, Muhl.
intumescens, Rudge.
laxiflora, Lam.
var. blanda, (Dewey), Boott.
var. heterosperma, (Wahl.) (*var. intermedia, Boott.*)
var. latifolia, Boott.
var. plantaginea, (Schk.), Boott.
var. styloflexa, (Buckley), Boott.
limosa, L.
livida, Willd.
longirostris, Torr.
lurida, Wahl. (*C. lupulina, Muhl.*)
var. polystachya, (Schw. & Torr.), Bailey. (*C. lupuliformis, Sartw.*)
Magellanica, Lam., var. irrigua, (Smith). (*C. irrigua, Smith.*)
monile, Tuck.
Muhlenbergii, Schk.
var. enervis, Boott.
nigro-marginata, Schw.
Novæ-Angliæ, Schw.
Œderi, Retz.

oligocarpa, Schk.
oligosperma, Michx.
pallescens, L.
pauciflora, Lightf.
pedunculata, Muhl.
Pennsylvanica, Lam.
plantaginea, Lam.
platyphylla, Carey.
polymorpha, Muhl.
polytrichoides, Muhl.
prasina, Wahl. (*C. miliacea, Muhl.*)
Pseudo-Cyperus, L.
  var. comosa, (Boott), W. Boott.
ptychocarpa, Steud.
pubescens, Muhl.
retrocurva, Dewey.
retrorsa, Schw.
riparia, Curtis.
rosea, Schk.
  var. radiata, Dewey. (*Includes var. minor, Boott.*)
  var. retroflexa, (Muhl.), Torr. (*C. retroflexa, Muhl.*)
rostrata, With.
  var. utriculata, (Boott), Bailey. (*C. utriculata, Boott.*)
salina, Wahl. (*Monmouth Co.?*)
scabrata, Schw.
Schweinitzii, Dewey.
scirpoidea, Michx.
scoparia, Schk.
siccata, Dewey.
Smithii, Porter.
sparganioides, Muhl.
squarrosa, L.
stipata, Muhl.
straminea, Schk. (*Includes vars. typica, tenera, Crawei and festucacea, Boott.*)
  var. alata, (Torr.), Bailey. (*C. alata, Torr.*)
  var. fœnea, (Willd.), Torr. (*C. fœnea, Willd.*)
  var. mirabilis, (Dewey), Tuck (*C. cristata. Schw., var. mirabilis, Gray, in part.*)
  var. moniliformis, Tuck. (*C. fœnea, Willd., var.(?) subulonum, Gray.*)
striata, Michx.

stricta, Lam.
subulata, Michx.
Sullivantii, Boott.
tenella, Schk.
tentaculata, Muhl.
var. gracilis, Boott.
teretiuscula, Good. (*Includes var. major, Koch*)
tetanica, Schk.
var. Canbyi, (Olney), Porter. (*C. paniccа, L., var. Canbyi, Olney.*)
torta, Boott.
tribuloides, Wahl. (*C. lagopodioides, Schk.*)
var. cristata, (Schw.), Bailey. (*C. cristata, Schw.*)
triceps, Michx.
trichocarpa, Muhl.
trisperma, Dewey.
Tuckermani, Boott.
umbellata, Schk.
varia, Muhl.
venusta, Dewey, var. glabra, (Boott), Bailey. (*C. glabra, Boott.*)
vestita, Willd.
virescens, Muhl.
vulgaris, Fries.
vulpinoidea, Michx.
Willdenovii, Schk.

GRAMINEÆ.

**Paspalum, L.**
læve, Michx.
setaceum, Michx.
Walterianum, Schult.

**Amphicarpum, Kunth.**
Purshii, Kunth.

**Panicum, L.**
agrostoides, Muhl.
amarum, Ell., var. minor, V. & S.
anceps, Michx.
capillare, L.
clandestinum, L.
*crus-galli, L.*
var. hispidum, (Muhl.), Torr.
depauperatum, Muhl.
dichotomum, L.

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var. barbulatum, (Michx.), Gray.
discolor, (Chapm.), Steud. ?
filiforme, L.
*glabrum*, (*Schrad.*), *Gaud.*
latifolium, L.
var. molle, Vasey.
laxiflorum, Lam.
microcarpon, Muhl.
*miliaceum*, *L.*
nitidum, Lam.
proliferum, Lam.
*sanguinale*, *L.*
scoparium, Lam. (*P. pauciflorum*, *Ell.?*)
verrucosum, Muhl.
virgatum, L.
viscidum, Ell.
xanthophysum, Gray.

**Setaria, Beauv.**

*glauca*, (*L.*), *Beauv.*
*Italica*, (*L.*), *Kunth.*
*verticillata*, (*L.*), *Beauv.*
*viridis*, (*L.*), *Beauv.*

**Cenchrus, L.**

tribuloides, L.

**Spartina, Schreb.**

cynosuroides, (L.), Willd.
juncea, (Michx.), Willd.
polystachya, (Michx.), Willd.
stricta, (Ait.), Roth.
var. maritima, (Walt.) (*var. alterniflora*, *Gray.*)
var. glabra, (Muhl.), Gray.

**Tripsacum, L.**

dactyloides, L.

**Zizania, L.**

aquatica, L.

**Leersia, Sw.**

oryzoides, (L.), Sw.
Virginica, Willd.

**Erianthus, Michx.**

alopecuroides, (L.), Ell.

**Andropogon, L.**

dissitiflorus, Michx. (*A. Virginicus*, *Gray*, *not L.*)

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glomeratus, (Walt.) (*A. macrourus, Michx.*)
provincialis, Lam. (*A. furcatus, Muhl.*)
var. maritimus, (Chapm.), Hack.
scoparius, Michx.

**Chrysopogon, Trin.**
nutans, (L.), Benth. (*Sorghum nutans, Gray.*)

**Phalaris, L.**
*arundinacea, L.*
*Canariensis, L.*

**Anthoxanthum, L.**
*odoratum, L.*

**Hierochloa, Gmel.**
odorata, (L.) (*H. borealis, Rœm. & Schult.*)

**Alopecurus, L.**
*geniculatus, L.*
var. aristulatus, (Michx.), Munro.

**Aristida, L.**
dichotoma, L.
gracilis, Ell.
purpurascens, Poir.
tuberculosa, Nutt.

**Stipa, L.**
avenacea, L.

**Oryzopsis, Michx.**
asperifolia, Michx.
juncea, (Michx.) (*O. Canadensis, Torr.*)
melanocarpa, Muhl.

**Milium, L.**
effusum, L.

**Muhlenbergia, Schreb.**
capillaris, Kunth.
diffusa, Schreb.
Mexicana, (L.), Trin.
racemosa, (Michx.) (*M. glomerata, Trin.*)
sobolifera, (Muhl.), Trin.
sylvatica, (Torr.), T. & G.
tenuiflora, (Willd.) (*M. Willdenovii, Trin.*)

**Brachyelytrum, Beauv.**
aristosum, (Michx.) (*B. aristatum, Beauv.*)

**Heleochloa, Host.**
*schœnoides, (L.), Host.* (*Crypsis schœnoides, Lam.*)

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**Phleum, L.**

*pratense, L.*

**Sporobolus, R. Br.**

asper, (Michx.), Kunth. (*Vilfa aspera, Beauv.*)

compressus, (Torr.), Kunth.

heterolepis, Gray.

serotinus, (Torr.), Gray.

vaginæflorus, (Torr.), Vasey. (*V. vaginæflora, Torr.*)

**Agrostis, L.**

*alba, L.*

*var. vulgaris,* (*With.*), *Thurb.* (*A. vulgaris, With*)

altissima, (Walt.), Tuck. (*A. elata, Trin.*)

canina, L.

hiemalis, (Walt.) (*A. scabra, Willd.*)

perennans, (Walt.), Tuck.

**Polypogon, Desf.**

*Monspeliensis,* (*L.*), *Desf.*

**Cinna, L.**

arundinacea, L.

pendula, Trin. (*C. arundinacea, L., var. pendula, Gray.*)

**Deyeuxia, Clarion.**

Canadensis, (Michx.), Beauv. (*Calamagrostis Canadensis, Beauv.*)

Nuttalliana, (Steud.), Vasey. (*C. Nuttalliana, Steud.*)

**Ammophila, Host.**

arenaria, (L.), Link. (*Calamagrostis arenaria, Roth.*)

brevipilis, (Torr.), Benth. (*C. brevipilis, Gray.*)

**Aira, L.**

*caryophyllea, L.*

*præcox, L.*

**Deschampsia, Beauv.**

cæspitosa, (L.), Beauv.

flexuosa, (L.), Griseb.

**Holcus, L.**

*lanatus, L.*

**Trisetum, Pers.**

Pennsylvanicum, (L.) (*T. palustre, Torr.*)

**Avena, L.**

striata, Michx.

**Arrhenatherum, Beauv.**

*elatius,* (*L.*), *Mert. & Koch.* (*A. avenaceum, Beauv.*)

**Danthonia, DC.**

Alleni, Austin.

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compressa, Austin.
sericea, Nutt.
spicata, (L.), Beauv.

**Cynodon, Pers.**
*Dactylon*, (*L.*), *Pers.*

**Gymnopogon, Beauv.**
ambiguus, (Michx.) (*G. racemosus, Beauv.*)

**Bouteloua, Lag.**
curtipendula, (Michx.), Gray.

**Eleusine, Gærtn.**
*Indica*, (*L.*), *Gærtn.*

**Triodia, R. Br.**
sesleroides, (Michx.), Benth. (*Tricuspis sesleroides, Torr.*)

**Diplachne, Beauv.**
fascicularis, (Lam.), Beauv. (*Leptochloa fascicularis, Gray.*)

**Triplasis, Beauv.**
purpurea, (Walt.), Chapm. (*Tricuspis purpurea, Gray.*)

**Phragmites, Trin.**
vulgaris, (Lam.) (*P. communis, Trin.*)

**Cynosurus, L.**
*cristatus*, *L.*

**Eatonia, Raf.**
Dudleyi, Vasey.
obtusata, (Michx.), Gray.
Pennsylvanica, (Spreng.), Gray.

**Eragrostis, Beauv.**
capillaris, (L.), Nees.
Frankii, Meyer.
hypnoides, (Lam.) (*E. reptans, Nees.*)
*major*, *Host.* (*E. pœoides, Beauv., var. megastachya, Gray.*)
*minor*, *Host.* (*E. pœoides, Beauv.*)
pectinacea, (Michx.), Gray.
var. spectabilis, (Pursh), Gray.
*pilosa*, (*L.*), *Beauv.*
Purshii, Schrad.

**Uniola, L.**
laxa, (L.) (*U. gracilis, Michx.*)

**Distichlis, Raf.**
spicata, (L.), Greene. (*Brizopyrum spicatum, Hook.*)

**Dactylis, L.**
*glomerata*, *L.*

**Briza, L.**
*media*, *L.*

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**Poa, L.**

alsodes, Gray.
annua, L.
autumnalis, Muhl. (*P. flexuosa, Muhl.*)
compressa, L.
debilis, Torr.
pratensis, L.
serotina, Ehrh.
sylvestris, Gray.
*trivialis, L.*

**Glyceria, R. Br.**

arundinacea, Kunth. (*G. aquatica, Gray, Manual.*)
brevifolia, (Muhl.), Schult. (*G. acutiflora, Torr.*)
Canadensis, (Michx.), Trin.
distans, (L.), Wahl.
elongata, (Torr.), Trin.
fluitans, (L.), R. Br.
*maritima*, (*Huds.*), *Mert. & Koch.*
nervata, (Willd.), Trin.
obtusa, (Nutt.), Trin.
pallida, (Eddy), Trin.

**Festuca, L.**

*duriuscula, L.* (*F. ovina, L., var. duriuscula, Gray.*)
*elatior, L.*
*gigantea*, (*L.*), *Vill.*
*Myurus, L.*
nutans, Spreng.
octoflora, Walt. (*F. tenella, Willd.*)
*ovina, L.*
*rubra, L.* (*F. ovina, L., var. rubra, Gray.*)

**Bromus, L.**

ciliatus, L.
Kalmii, Gray.
*mollis, L.*
purgans, L. (*B. ciliatus, L., var. purgans, Gray.*)
*racemosus, L.*
*secalinus, L.*
*sterilis, L.*
*tectorum, L.*

**Lolium, L.**

*perenne, L.*

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**Agropyrum, J. Gærtn.**

caninum, (L.), Rœm. & Schult. (*Triticum caninum, Gray, Manual.*)

*repens*, (*L.*), *Beauv.* (*T. repens, L.*)

**Hordeum, L.**

*jubatum*, *L.*

**Elymus, L.**

Canadensis, L.

var. glaucifolius, (Muhl.), Gray.

striatus, Willd.

Virginicus, L.

**Asprella, Willd.**

Hystrix, (L.), Willd. (*Gymnostichum Hystrix, Schreb.*)

CONIFERÆ.

**Thuja, L.**

occidentalis, L.

**Chamæcyparis, Spach.**

thyoides, (L.) (*Cupressus thyoides, L.*)

**Juniperus, L.**

communis, L.

Virginiana, L.

**Taxus, L.**

baccata, L., var. Canadensis, (Willd.), Gray.

**Pinus, L.**

echinata, Mill. (*P. mitis, Michx.*)

inops, Ait.

pungens, Michx. f.

resinosa, Ait.

rigida, Mill.

Strobus, L.

**Picea, Link.**

Canadensis, (Mill.) (*Abies alba, Michx.*)

Mariana, (Mill.) (*A. nigra, Poir.*)

**Tsuga, Carr.**

Canadensis, (L.), Carr. (*Abies Canadensis, Michx.*)

**Abies, Juss.**

balsamea, (L.), Mill.

**Larix, Mill.**

laricina, (DuRoi). (*L. Americana, Michx.*)

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ISOETEÆ.

**Isoetes, L.**

echinospora, Durieu, var. Braunii, (Durieu), Engelm.
Engelmanni, A. Br.
lacustris, L.
riparia, Engelm.

SELAGINELLEÆ.

**Selaginella, Beauv.**

apus, (L.), Spring.
rupestris, (L.), Spring.

RHIZOCARPÆ.

**Marsilia, L.**

*quadrifolia, L.*

**Azolla, Lam.**

*Caroliniana, Willd.*

LYCOPODIACEÆ.

**Lycopodium, L.**

alopecuroides, L.
annotinum, L.
Carolinianum, L.
clavatum, L.
complanatum, L.
inundatum, L.
lucidulum, Michx.
obscurum, L. (*L. dendroideum, Michx.*)
Selago, L.

OPHIOGLOSSACEÆ.

**Ophioglossum, L.**

vulgatum, L.

**Botrychium, Sw.**

lanceolatum, (Gmel.), Angstr.
matricariæfolium, A. Br.
simplex, Hitchcock.
ternatum, (Thunb.), Sw.
var. dissectum, (Spreng.), Milde.
var. intermedium, D. C. Eaton. (*B. lunarioides, D. C. Eaton, in Gray, Manual.*)
var. obliquum, (Muhl.), Milde.
Virginianum, (L.), Sw.

FILICES.

**Polypodium, L.**

vulgare, L.

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**Cheilanthes, Sw.**

vestita, (Spreng.), Sw.

**Pellæa, Link.**

atropurpurea, (L.), Link.

gracilis, (Michx.), Hook.

**Pteris, L.**

aquilina, L.

var. caudata, (L.), Hook.

**Adiantum, L.**

pedatum, L.

**Woodwardia, Smith.**

areolata, (L.), Moore. (*W. angustifolia, Smith*)

Virginica, (L.), Smith.

**Asplenium, L.**

acrostichoides, Sw. (*A. thelypteroides, Michx.*)

angustifolium, Michx.

Bradleyi, D. C. Eaton.

ebenoides, R. R. Scott.

Filix-fœmina, (L.). Bernh.

var. laciniatum, Moore.

montanum, Willd.

pinnatifidum, (Muhl.), Nutt.

platyneuron, (L.) (*A. ebeneum, Ait.*)

var. serratum, (E. S. Miller).

Ruta-muraria, L

Trichomanes, L.

**Camptosorus, Link.**

rhizophyllus, (L.), Link.

**Phegopteris, Fée.**

connectilis, (Michx.) (*P. polypodioides, Fée.*)

Dryopteris, (L.), Fée.

hexagonoptera, (L.), Fée.

**Aspidium, Sw.**

acrostichoides, (Michx.), Sw.

var. Schweinitzii, (Beck.) (*var. incisum, Gray.*)

aculeatum, Sw., var. Braunii, (Spenner), Doell.

Boottii, Tuck. (*A. spinulosum, Sw., var. Boottii, Gray.*)

cristatum, (L.), Sw.

var. Clintonianum, D. C. Eaton.

Goldianum, Hook.

marginale, (L.), Sw.

Noveboracense, (L.), Sw.

spinulosum, Sw.
var. dilatatum, (Sw.), Hook.
var. intermedium, (Willd.), D. C. Eaton.
Thelypteris, (L.), Sw.

**Cystopteris, Bernh.**
bulbifera, (L.), Bernh.
fragilis, (L.), Sw.

**Onoclea, L.**
sensibilis, L.
Struthiopteris, (L.), Hoffm. (*Struthiopteris Germanica, Willd.*)

**Woodsia, R. Br.**
Ilvensis, (L.), R. Br.
obtusa, (Spreng.), Torr.

**Dicksonia, L'Hér.**
punctilobula, (Michx.), Gray.

**Lygodium, Sw.**
palmatum, (Bernh.), Sw.

**Schizæa, Smith.**
tortuosa, Pursh. (*S. pusilla, Pursh.*)

**Osmunda, L.**
cinnamomea, L.
Claytoniana, L.
regalis, L.

## EQUISETACEÆ.

**Equisetum, L.**
arvense, L.
var. serotinum, Meyer.
hiemale, L.
limosum, L.
littorale, Kuhlw.?
sylvaticum, L.

# BALLAST PLANTS

*Found in the Vicinity of New York and Philadelphia, and mainly collected and identified by Hon. Addison Brown, I. C. Martindale, C. F. Parker, C. E. Smith and Isaac Burk.*

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RANUNCULACEÆ.

Ranunculus arvensis, L.
Ranunculus Græcus, Griseb.
Ranunculus lanuginosus, L.
Ranunculus parvulus, L.
Ranunculus Sardous, Crantz.
Ranunculus villosus, DC.
Delphinium Ajacis, Reichenb.
Delphinium divaricatum, Ledeb.
Delphinium peregrinum, L.

PAPAVERACEÆ.

Papaver hybridum, L.
Papaver Rhœas, L.
Eschscholtzia Californica, Cham.
Hypecoum grandiflorum, Benth.
Fumaria capreolata, L.
Fumaria parviflora, Lam.

CRUCIFERÆ.

Nasturtium officinale, R. Br., var. microphyllum, Reichenb.
Alyssum incanum, R. Br.
Sisymbrium Irio, L.
Sisymbrium Lœselii, L.
Sisymbrium Pannonicum, Jacq.
Sisymbrium polyceratium, L.
Erysimum orientale, L.
Erysimum repandum, L.
Brassica Cheiranthus, Vill.
Brassica Monensis, Huds.
Brassica Napus, L.
Brassica oleracea, L.
Diplotaxis erucoides, DC.

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Diplotaxis muralis, DC.
Diplotaxis tenuifolia, DC.
Diplotaxis virgata, DC.
Lepidium graminifolium, L.
Lepidium latifolium, L.
Lepidium perfoliatum, L
Lepidium sativum, L.
Lepidium Smithii, Hook.
Iberis umbellata, L.
Teesdalia nudicaulis, R. Br.
Neslia paniculata, Desv.
Bunias orientalis, L.
Rapistrum rugosum, All.
Cakile maritima, Scop.
Raphanus maritimus, Smith.

CAPPARIDEÆ.

Polanisia viscosa, DC.

RESEDACEÆ.

Reseda alba, L.
Reseda lutea, L.
Reseda odorata, L.
Reseda Phyteuma, L.

VIOLARIEÆ.

Ionidium parviflorum, Vent.

FRANKENIACEÆ.

Frankenia pulverulenta, L.

CARYOPHYLLEÆ.

Dianthus barbatus, L.
Gypsophila muralis, L.
Saponaria ocymoides, L.
Silene Anglica, L.
Silene conoidea, L.
Silene dichotoma, Ehrh.
Silene Gallica, L.
Silene Italica, Pers.
Silene pendula, L.
Silene saponariæfolia, L.
Lychnis Chalcedonica, L.
Lychnis Flos-cuculi, L.

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Lychnis sylvestris, Schk.
Cerastium tetrandrum, Curtis.
Stellaria aquatica, Scop.
Sagina maritima, Smith.
Polycarpon tetraphyllum, L.

PORTULACEÆ.

Portulaca pilosa, L.
Portulaca splendens, L.

HYPERICINEÆ.

Hypericum humifusum, L.

MALVACEÆ.

Althæa hirsuta, L.
Malva arvensis, Presl.
Malva borealis, Wallm.
Malva Nicæensis, All.
Malva parviflora, L.
Malvastrum spicatum, Gray.
Malvastrum tricuspidatum, Gray.
Sida angustifolia, Juss.
Sida carpinifolia, L.
Sida carpinifolia, L., var. brevicuspidata, Griseb.
Sida cordifolia, L.
Sida linifolia, Cav.
Sida rhombifolia, L.
Abutilon cordifolium, L.
Sphæralcea miniata, Cav.
Modiola multifida, Mœnch.
Pavonia hastata, Cav.
Urena lobata, L.
Gossypium album, Ham.
Gossypium Barbadense, L.

STERCULIACEÆ.

Waltheria Americana, L.

TILIACEÆ.

Corchorus fascicularis, Lam.
Corchorus tridens, L.
Corchorus trilocularis, L.

LINEÆ.

Linum angustifolium, Huds.

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ZYGOPHYLLEÆ.

Tribulus terrestris, L.
Zygophyllum Fabago, L.

GERANIACEÆ.

Geranium molle, L.
Geranium rotundifolium, L.
Erodium Ciconium, Willd.
Erodium gruinum, Willd.
Erodium malachoides, Willd.
Erodium moschatum, L'Hér.

SAPINDACEÆ.

Cardiospermum Halicacabum, L.

LEGUMINOSÆ.

Lupinus angustifolius, L.
Genista scoparia, Lam.
Ulex nanus, Forst.
Ononis antiquorum, L.
Ononis arvensis, L.
Ononis repens, L.
Ononis spinosa, L.
Trigonella Besseriana, L.
Trigonella cærulea, Ser.
Trigonella corniculata, L.
Trigonella Monspeliaca, L.
Trigonella ornithopoides, DC.
Trigonella polycerata, L.
Medicago apiculata, Willd.
Medicago ciliaris, Willd.
Medicago denticulata, Willd.
Medicago Echinus, Willd.
Medicago falcata, L.
Medicago flexuosa, Ten.
Medicago lappacea, Desr.
Medicago littoralis, Rohdl.
Medicago marginata, Willd.
Medicago minima, L.
Medicago muricata, All.
Medicago orbicularis, L.
Medicago pubescens, DC.
Medicago spinulosa, DC.

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Medicago tribuloides, L.
Medicago turbinata, Willd.
Melilotus arvensis, Wallr.
Melilotus compacta, Salz.
Melilotus gracilis, DC.
Melilotus infesta, Guss.
Melilotus macrorhiza, Pers.
Melilotus messanensis, Desf.
Melilotus occidentalis, Nutt.
Melilotus parviflora, Desf.
Melilotus sulcata, Desf.
Trifolium angustifolium, L.
Trifolium Dalmaticum, Vis.
Trifolium elegans, Savi.
Trifolium fragiferum, L.
Trifolium lappaceum, L.
Trifolium maritimum, Huds.
Trifolium ochroleucum, L.
Trifolium resupinatum, L.
Trifolium scabrum, L.
Trifolium striatum, L.
Trifolium subterraneum, L.
Trifolium tomentosum, L.
Anthyllis vulneraria, L.
Dorycnium hirsutum, DC.
Lotus angustissimus, L.
Lotus corniculatus, L.
Lotus tenuifolius, Presl.
Psoralea bituminosa, L.
Sesbania Floridana, S. Wats.
Sesbania macrocarpa, Muhl.
Colutea arborescens, L.
Astragalus glycyphyllos, L.
Scorpiurus subvillosa, L.
Scorpiurus vermiculata, L.
Ornithopus compressus, L.
Ornithopus perpusillus, L.
Ornithopus scorpioides, L.
Coronilla Emerus, L.
Hippocrepis comosa, L.
Adesmia muricata, DC.
  var. dentata, (DC.)

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Arachis hypogæa, Willd.
Vicia calcarata, Desf.
Vicia grandiflora, Scop.
Vicia hybrida, L.
Vicia lutea, L.
Vicia micrantha, Nutt.
Vicia Narbonensis, L.
Vicia peregrina, L.
Ervum Lens, L.
Lathyrus Aphaca, L.
Lathyrus ochrus, DC.
Lathyrus sativus, L.
Pisum sativum, L.
Vigna glabra, Savi.
Vigna luteola, Benth.
Rhynchosia minima, DC.
Cassia occidentalis, L.
Desmanthus brachylobus, Benth.

ROSACEÆ.

Rubus fruticosus, L.
Rubus glandulosus, Bell.
Potentilla reptans, L.
Alchemilla arvensis, Scop.

ONAGRARIEÆ.

Epilobium hirsutum, L.
Epilobium parviflorum, Schreb.
Epilobium pubescens, Roth.
Jussiæa leptocarpa, Nutt.
Gaura sinuata, Nutt.

CUCURBITACEÆ.

Ecbalium agreste, Rich.

FICOIDEÆ.

Mesembryanthemum crystallinum, L.
Mesembryanthemum nodosum, L.
Trianthema monogynum, L.
Mollugo Cerviana, Ser.

UMBELLIFERÆ.

Eryngium campestre, L.
Eryngium maritimum, L.

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Bupleurum protractum, Link.
Apium divaricatum, S. Wats.
Apium graveolens, L.
Apium leptophyllum, F. Muell.
Apium Petroselinum, L.
Apium repens, Reichenb.
Ammi majus, L.
Ammi Visnaga, L.
Chærophyllum sylvestre, L.
Chærophyllum temulum, L.
Scandix Pecten-Veneris, L.
Œnanthe Phellandrium, Lam.
Peucedanum graveolens, S. Wats.
Heracleum Spondylium, L.
Coriandrum sativum, L.
Bifora radians, Bieb.
Daucus Broteri, Ten.
Caucalis Helvetica, Jacq.
Caucalis infesta, Curtis.
Caucalis latifolia, L.
Caucalis nodosa, Scop.

CAPRIFOLIACEÆ.

Sambucus Ebulus, L.

RUBIACEÆ.

Richardsonia scabra, St. Hil.
Galium palustre, L.
Galium Parisiense, L.
Galium tricorne, With.
Asperula arvensis, L.
Sherardia arvensis, L.

VALERIANEÆ.

Valerianella carinata, Loisel.
Valerianella dentata, Koch.
Valerianella Morisonii, DC.

DIPSACEÆ.

Scabiosa stellata, L.

CALYCEREÆ.

Calycera balsamitæfolia, Rich.

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## COMPOSITÆ.

Ageratum conyzoides, L.
Eupatorium cannabinum, L.
Mikania gonoclada, DC.
Grindelia glutinosa, Dun.
Heterotheca subaxillaris, (Lam.), Britton & Rusby.
Solidago tortifolia, Ell.
Bellis perennis, L.
Aster oblongifolius, Nutt.
Aster Tripolium, L.
Erigeron acris, L.
Erigeron divaricatus, Michx.
Erigeron linifolius, Willd.
Conyza albida, Less.
Baccharis Douglasii, DC.
Filago arvensis, L.
Filago minima, Fries.
Gnaphalium luteo-album, L.
Gnaphalium palustre, Nutt.
Inula dysenterica, L.
Inula Pulicaria, L.
Inula viscosa, Desf.
Buphthalmum salicifolium, L.
Acanthospermum hispidum, DC.
Acanthospermum humile, DC.
Acanthospermum xanthioides, DC.
Parthenium Hysterophorus, L.
Ambrosia psilostachya, DC.
Heliopsis buphthalmoides, Dun.
Helianthus petiolaris, Nutt.
Melanthera deltoidea, Michx.
Spilanthes repens, Michx.
Guizotia oleifera, DC.
Bidens leucantha, Willd.
Bidens tripartita, L.
Hemizonia fasciculata, T. & G., var. ramosissima, Gray.
Hemizonia pungens, T. & G.
Flaveria Contrayerba, Pers.
Helenium quadridentatum, Labill.
Anacyclus tomentosus, L.
Achillea Ptarmica, L.
Achillea rosea, Desf.

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Anthemis mixta, L.
Anthemis secundiramea, Biron.
Chrysanthemum coronarium, L.
Chrysanthemum segetum, L.
Matricaria discoidea, DC.
Matricaria maritima, L.
Artemisia Dracunculus, L.
Cenia turbinata, Pers.
Senecio chrysanthemifolius, Poir.
Senecio erucæfolius, L.
Senecio Jacobæus, L.
Senecio sylvaticus, L.
Senecio viscosus, L.
Calendula arvensis, L.
Calendula officinalis, L.
Carduus acanthoides, L.
Carduus crispus. L.
Carduus Marianus, L.
Carduus multiflorus, Gaud.
Carduus pycnocephalus, L.
Cnicus arvensis, Hoffm., var. integrifolia, (Koch.)
Silybum Marianum, Gærtn.
Serratula tinctoria. L.
Centaurea aspera, L.
Centaurea Austriaca, Willd.
Centaurea Jacea, L.
Centaurea paniculata, L.
Centaurea Phrygia, L.
Centaurea Scabiosa, L.
Centaurea solstitialis, L.
Centaurea tenuifolia, Dufour.
Carthamus lanatus, L.
Scolymus Hispanicus, L.
Cichorium divaricatum, Schreb.
Cichorium Endivia, L.
Arnoseris pusilla, Gærtn.
Picris echioides, L.
Picris hieracioides, L.
Picris hispida, All.
Hieracium prenanthoides, Vill.
Hieracium umbellatum, L.
Hypochæris glabra, L.

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Hypochæris radicata, L.
Leontodon hirtus, L.
Leontodon hispidus, L.
Leontodon pratensis, Koch.
Sonchus tenerrimus, L.

CAMPANULACEÆ.

Jasione montana, L.
Wahlenbergia linarioides, DC.
Campanula urticæfolia, Schmid.
Specularia hybrida, DC.
Specularia Speculum, DC.

PLUMBAGINEÆ.

Armeria maritima, Willd.

PRIMULACEÆ.

Anagallis cærulea, Smith.

ASCLEPIADEÆ.

Philibertia gracilis, D. Don.

POLEMONIACEÆ.

Gilia achilleæfolia, Benth.
Gilia capitata, Dougl.

HYDROPHYLLACEÆ.

Nama Jamaicense, L.

BORRAGINEÆ.

Tournefortia heliotropioides, Hook.
Heliotropium anchusæfolium, Poir.
Heliotropium Curassavicum, L.
Heliotropium Indicum, L.
Heliotropium Peruvianum, Don.
Heliotropium supinum, L.
Echinospermum Redowskii, Lehm.
Amsinckia intermedia, Fisch & Mey.
Amsinckia supina, L.
Borrago officinalis, L.
Anchusa leptophylla, Rœm. & Schult.
Anchusa officinalis, Don.
Nonnea nigricans, DC.
Myosotis collina, Hoffm.
Myosotis versicolor, Pers.
Echium pustulatum, Sibth.
Echium violaceum, L.

## CONVOLVULACEÆ.

Ipomœa acetosæfolia, Vahl.
Ipomœa commutata, Rœm. & Schult.
Ipomœa hederacea, Jacq., var. integriuscula, Gray.
Ipomœa lacunosa, L.
Ipomœa littoralis, Choisy.
Ipomœa sinuata, Ort.
Ipomœa tamnifolia, L.
Convolvulus pentapetaloides, L.
Convolvulus tricolor, L.
Dichondra repens, Forst.

## SOLANACEÆ.

Solanum Balbisii, Dun.
Solanum elæagnifolium, Cav.
Solanum gracile, Link.
Solanum mammosum, L.
Solanum miniatum, Bernh.
Solanum nigrum, L., var. Dillenii, Gray.
Solanum nigrum, L., var. nudiflorum, Gray.
Solanum nigrum, L., var. villosum, Mill.
Solanum sisymbriifolium, Lam.
Physalis Peruviana, Nees.
Atropa Belladonna, L.
Datura Metel, L.
Hyoscyamus albus, L.
Nicotiana glauca, Grah.
Nicotiana longiflora, Cav.
Petunia parviflora, Juss.
Petunia violacea, Hook.

## SCROPHULARINEÆ.

Verbascum nigrum, L.
Verbascum orientale, Bieb.
Verbascum phlomoides, L.
Verbascum pulverulentum, Vill.
Verbascum ramigerum, Link.
Verbascum sinuatum, L.
Verbascum virgatum, With.
Linaria Cymbalaria, Mill.
Linaria minor, Desf.
Linaria repens, Steud.
Linaria spuria, Mill.

Linaria striata, DC.
Linaria supina, Desf.
Antirrhinum majus, L.
Antirrhinum Orontium, L.
Scrophularia aquatica, L.
Scrophularia canina, L.
Scrophularia Hoppei, Koch.
Herpestis Monniera, HBK.
Scoparia flava, Cham. & Sch.
Digitalis lutea, L.
Veronica Beccabunga, L.
Veronica Cymbalaria, Bertol.

OROBANCHACEÆ.

Orobanche minor, L., var. flavescens, DC.

PEDALINEÆ.

Sesamum Indicum, L.

VERBENACEÆ.

Lippia nodiflora, Michx.
Verbena Bonariensis, L.
Verbena littoralis, HBK.

LABIATÆ.

Mentha Pulegium, L.
Satureia montana, L.
Calamintha officinalis, Mœnch.
Salvia Verbenaca, L.
Brunella laciniata, L.
Stachys annua, L.
Stachys hirta, L.
Stachys recta, L.
Stachys sylvatica, L.
Galeopsis angustifolia, Ehrh.
Galeopsis versicolor, Curtis.
Galeopsis villosa, Huds.
Leonurus glaucescens, Bunge.
Teucrium Scordium, L.
Ajuga Chamæpitys, Schreb.
Ajuga Genevensis, L.

PLANTAGINEÆ.

Plantago Coronopus, L.
Plantago Lagopus, L.
Plantago heterophylla, Nutt.
Plantago hirtella, HBK.

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ILLECEBRACEÆ.

Corrigiola littoralis, L.
Herniaria glabra, L.
Herniaria hirsuta, L.

AMARANTACEÆ.

Celosia cristata, L.
Amarantus blitoides, S. Wats.
Amarantus crispus, L.
Amarantus deflexus, L.
Amarantus polygonoides, L.
Amarantus sanguineus, L.
Alternanthera Achyrantha, R. Br.
Cladothrix lanuginosa, Moq.
Gomphrena globosa, L.

CHENOPODIACEÆ.

Chenopodium obovatum, DC.
Chenopodium polyspermum, L.
Chenopodium Vulvaria, L.
Beta maritima, L.
Beta trigyna, L.
Atriplex congesta, Moq.
Atriplex hortensis, L.
Atriplex laciniata, L.
Polycnemon arvensis, L.
Kochia scoparia, Schrad.

POLYGONACEÆ.

Polygonum hernarioides, Del.
Polygonum lapathifolium, L.
  var. incanum, Gray.
Polygonum minus, Huds.
Rumex aquaticus, L.
Rumex conglomeratus, Miers.
Rumex pulcher, L.
Rumex sanguineus, L.
Emex spinosa, Camb.

EUPHORBIACEÆ.

Euphorbia Esula, L.
Euphorbia exigua, L.
Euphorbia hiberna, L.
Euphorbia humistrata, Engelm.

Euphorbia Peplis, L.
Euphorbia Peplus, L.
Euphorbia platyphylla, L.
Euphorbia segetalis, L.
Euphorbia serpens, HBK.
Phyllanthus polygonoides, Spreng.
Croton glandulosus, L.
Croton maritimus, Walt.
Mercurialis annua, L.
Acalypha Poiretii, Spreng.
Ricinus communis, L.

URTICACEÆ.

Parietaria debilis, Forst.
Parietaria diffusa, Mert. & Koch.
Parietaria officinalis, L.

IRIDEÆ.

Iris Pseudacorus, L.

LILIACEÆ.

Asphodelus ramosus, L.

CYPERACEÆ.

Cyperus echinatus, (Ell.), Britton.
Cyperus flavo-mariscus, Griseb.
Cyperus fuscus, L.
Cyperus Lecontei, Torr.
Cyperus Surinamensis, Rottb.
Cyperus umbellatus, Vahl.
Fimbristylis miliacea, Vahl.
Scirpus affinis, Roth.
Scirpus glaucus, L.
Scirpus Holoschœnus, L.
Scirpus setaceus, L.
Carex Davalliana, Lam.
Carex distans, L.
Carex hirta, L.
Carex muricata, L.
Carex ornithopoda, With.

GRAMINEÆ.

Paspalum ciliatifolium, Michx.
Paspalum distichum, L.
Paspalum notatum, Fluegg.
Paspalum plicatulum, Michx.

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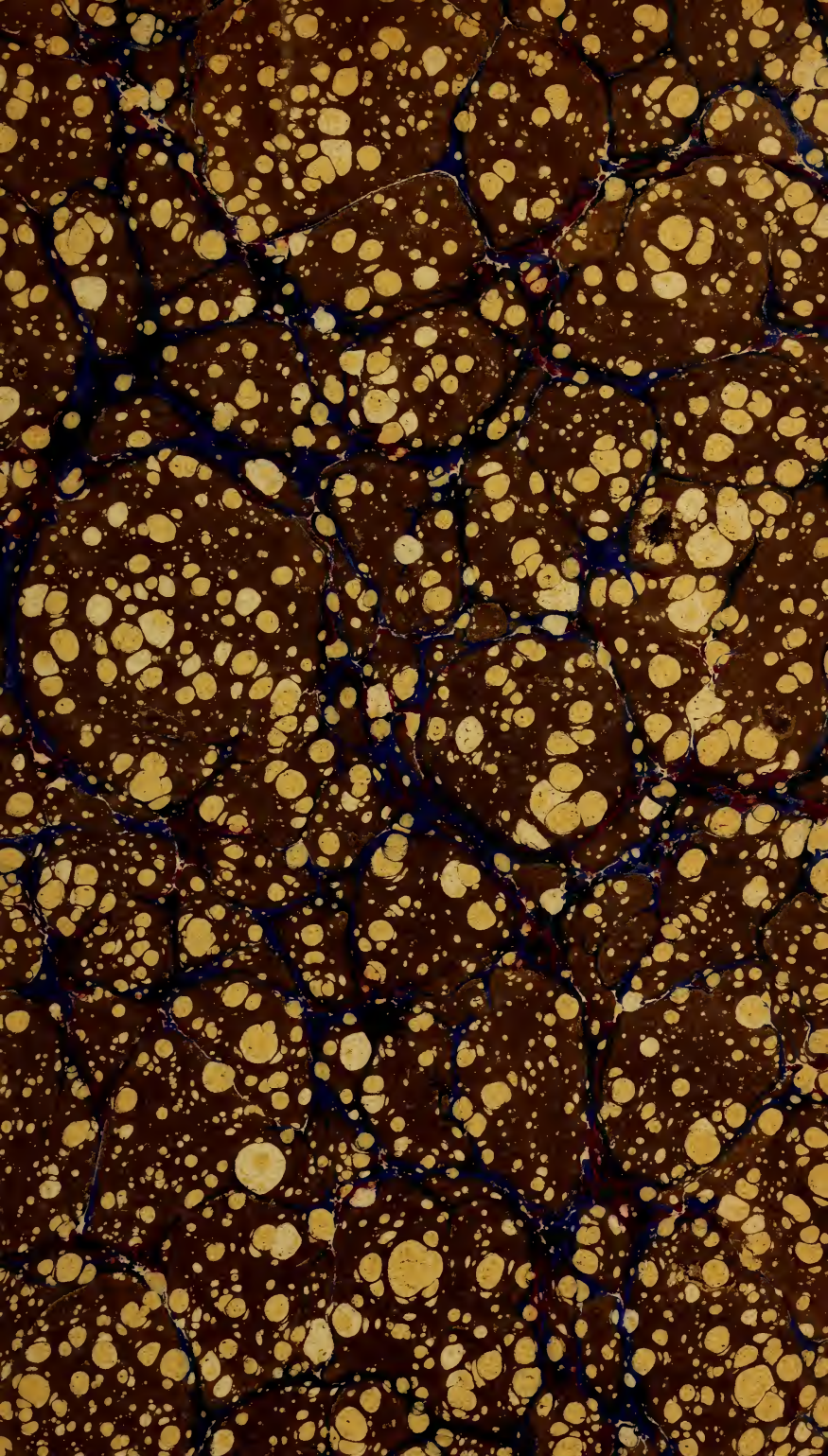
Paspalum purpurascens, Ell.
Paspalum scrobiculatum, L.
Paspalum undulatum, Poir.
Paspalum vaginatum, Sw.
Panicum colonum, L.
Panicum prostratum, Lam.
Setaria composita, HBK.
Setaria setosa, Beauv.
Tragus racemosus, Hall.
Andropogon Halapensis, Sibth.
Andropogon Ischæmon, L.
Phalaris intermedia, Bosc.
Phalaris paradoxa, L.
Hierochloa australis, Rœm. & Schult.
Alopecurus agrestis, L.
Alopecurus bulbosus, L.
Alopecurus Creticus, Trin.
Phleum arenarium, L.
Phleum asperum, Vill.
Phleum Bœhmeri, Wibel.
Phleum tenue, Schrad.
Sporobolus cryptandrus, Gray.
Sporobolus Indicus, R. Br.
Agrostis verticillata, Vill.
Apera Spica-venti, Beauv.
Corynephorus canescens, Beauv.
Holcus mollis, L.
Avena fatua, L.
Gaudinia fragilis, Beauv.
Chloris petræa, Sw.
Eleusine Ægyptiaca, Pers.
Eleusine Coracana, Pers.
Eleusine Indica, Gærtn., var. brachystachya, Trin.
Eleusine rigida, Spreng.
Leptochloa filiformis, Rœm. & Schult.
Leptochloa mucronata, Kunth.
Leptochloa virgata, Beauv.
Kœleria phleoides, Pers.
Molinia cærulea, Mœnch.
Eragrostis Brownei, Nees.
Briza minor, L.

Glyceria festucæformis, Heynh.
Glyceria procumbens, Curtis.
Festuca ciliata, DC.
Festuca spectabilis, Jan.
Bromus arvensis, L.
Bromus pratensis, Lam.
Bromus multiflorus, Smith.
Bromus rubens, L.
Bromus squarrosus, L.
Lolium multiflorum, Lam.
Lolium rigidum, Gaud.
Lolium temulentum, L.
Lepturus incurvatus, Trin.
Hordeum murinum, L.

EQUISETACEÆ.

Equisetum variegatum, Schlecht.

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